SERVICE MANUAL

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Preface

This manual is applied to DV-10 0.55” DMD XGA digital projection system. It’s the mode of single Panel, 180 Watt Compact P-VIP Lamp and 854(H) x 480(V) resolution. The manual gives you a brief description of basic technical information to help in service and maintaining the product.

Your customers will appreciate the quick response time when you immediately identify problems that occur with our products. We expect your customers will appreciate the service that you offer them.

This manual is for technicians and people who have an electronic background. Send the product back to the distributor for repairing and do not attempt to do anything that is complex or is not mentioned in the troubleshooting.

NOTICE :

The information found in this manual is subject to change without prior notice. Any subsequent changes made to the data herein will be incorporated in further edition.

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Manual Version 1.0

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Chapter 1

Introduction

1-1 Product Highlights

Projector

- One 480P (854 x 480) DMD DVD projection system with DVD module bundled
- 800 ANSI lumens (typical), 680 ANSI lumens
- 75% uniformity (Typical), 65% minimum (Japan standard)
- Contrast (FOFO) : 2000 : 1 (Typical), 1300:1
- Dimensions : 14.5 x 4.6 x 10.75 inches (368.5 x 116.6 x 272.7 mm)
- Weight < 8 lb
- Adjustable Feet angle 9.5%
- Zoom lens 1.1X, throw ratio from 1.35 to 1.5
- Diameter 44mm, 7segments GRBWGRB color wheel spinning at 120Hz.
- 200 Watt Phoenix Lamp. Lamp life 2000 hours, Low mode 3000 hours-based on Phoenix DC lamp specification.
- High efficiency cooling system with typical system acoustic noise level : 35 dB(A) in normal mode and 32 dB(A) in the low mode.
- Computer capability up to SXGA 60Hz for Analog
- NTSC/PAL/SECAM video capability with S-video, composite and HDTV(480i/p, 576i/p, 720p, 1080i)
- Auto detection of computer signal input.
- Auto Image.(Auto-tracking /frequency /position adjustment)
- Automatically saves adjustments for future use
- Projector on-screen menu with 9 languages. (Eng/Fra/Ger/Ita/Spa/Por/Traditional Chinese/Simplified Chinese/Korean)
- On Screen lamp life timer.
- One IR remote controller for projector and DVD play both
- Half height DVD Meca + SOC

DVD Module

- Half Height top loading DVD traverse
- One SOC for MPEG decoder and DVD servo
- Direct interlace, digital video output from MPEG decoder to Scaler ITU-R 656 YUV (4:2:2)
- Digital audio out and one subwoofer out

- Compatible with DVD,VCD,SVCD,HDCD,CD,CD-R,CD-RW,MP3, WMA,discs and Kodak CD picture.
- Contrast, brightness, saturation, tint, sharpness, gamma adjustment open up
- On-screen menu with 9 languages. (Eng/Fra/Ger/Ita/Spa/Por/Traditional Chinese/ Simplified Chinese)
- DVD keypad/button function
  1. Play/Pause, Stop, Eject, Forward, Backward, Menu, Volume up, Volume down.

1-2 Mechanical Spec.

- Dimensions (WxHxD) 14.5 x 4.6 x 10.75 inches (368.5 x 116.6 x 272.7 mm)
- Weight 8.25 lb
- Cooling System Advanced Air Flow
  Two motor fans (one 5020 Blower fan and one 7020 axial fan)
  Temperature control circuits with adaptive voltage control fan speed
- Lamp Door Protection
  Lamp power supply shuts off automatically when door open
- Feet Adjustable foot 9.5%
- Packing One Carry bag + Outside cushion and carton

Display Panel Specifications

- TI DMD 480p / 12deg / 854x480
- Number of active dots : 854(H) x 480(V)

Electrical Specifications

- Power Supply Universal 100~240 VAC+/-10%, 50-60 Hz with PFC input
  For DV-10 , AC100V+/-10% (50-60 Hz) only.
- Power consumption 275W +/- 10% (Operating)
  230W +/- 10%(ECO)
  14W(Stand by)

I/O ports & Inputs signals

- Video I/O

	I/O port	signal	Available SYNC			Max dot clock
			SonG	Component	H,V	
1	RGB	RGB PC signals	×	○	○	140MHz
		480i/480p,576i,576p,1080i@30,720p60	○	○	○	-
2	S-Video	NTSC,PAL	-	-	-	-
3	Video	NTSC,PAL	-	-	-	-

- Others

1	RS232C	For SW download
2	Power Cord	3pin plug
3	IR	Position: Front & Rear Distance: over 10m over 6m (with screen reflection) (Remote-Screen-Projector total distance> 6m) Angle: horizontal ±30deg vertical ±15deg

Input signal spec.

- H-sync Frequency: 15.75 ~ 91.1 kHz
- V-sync Frequency: 43 ~ 85 Hz
- Video Signal RGB (PC)
  Analog RGB: 0.7Vp-p, 75 ohm
  Analog RGB: 1Vp-p, 75 ohm, Sync. Signal
  Separate TTL H,V Sync.
  Composite TTL Sync.
- Video
  Composite video: 1Vp-p,75 ohm
  S-video Luminance: 0.714Vp-p,75 ohm
  S-video Chrominance: 0.286Vp-p,75 ohm

Video Compatibility

- Standards : (Should be frame lock)
  NTSC - M,
  PAL - B, D, G
  HDTV - 720p, 1080i
  Note: support 480i, 480p, 576i and 576p
  TV Lines -500 lines

Intelligent Zoom

- by using “TI DDP2000” Chips to provide excellent quality zooming.

Keystone

- Vertical: +/- 15 deg (Desk-projector angle)

Control Key Pad

- 7 keys for projector and 6 keys for DVD

IR Remote Controller

- Top of the minus side battery spring should be directed to inside of cabinet.
- Top of the plus side battery spring should be lower than the libs of cabinet.

Indicator

- "Lamp" Red
- "Temp" Orange
- "Power" Blue (Power on) / Red (Stand by)

Auto Detect & Install

- Automatically recognizes the computer's video signal and configures itself accordingly.
- Automatically saves adjustments for future use.

On-Screen Menu

- Multi-language: 17 languages support be separate into two version - for Asia/US and EMEA Chinese/Korean
- 6 main items (Image-I, Image-II, Display, System, Language, Lamp Setting)

Projection lens

- f = 28.3 ~ 38.2 mm, F/3.4, 1.1X.

Projection Image Size

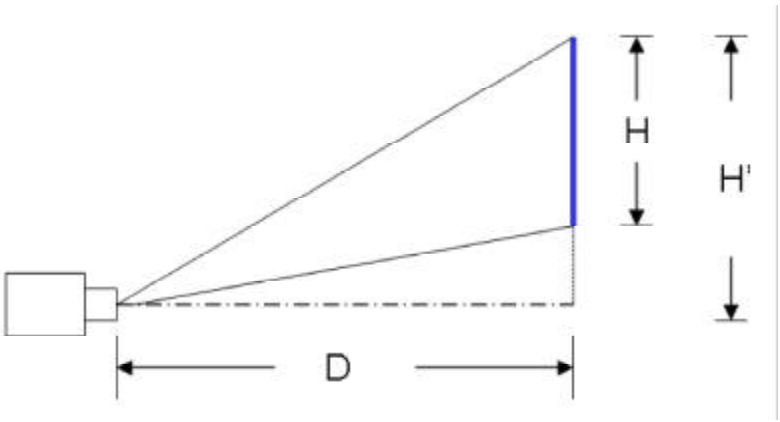
- 21" to 282" Diagonal

Throw Distance

- 3.28 ft to 32.80 ft/ 1.0m to 10m

Offset

- 154% = H' /H
- 120% with extension feet.



Throw Ratio: 1.25~1.5 (Projection Distance/Image Width)

In case of using 16:9 Screen						
Diagonal Screen Size	Throw Distance(L)		Bottom Height of Image(H)	Throw Distance(L)		Bottom Height of Image(H)
[inch]	[inch]	[m]	[m]	[inch]	[m]	[m]
	Wide	Wide		Tele	Tele	
Zoom Ratio	1.35	1.35	0% tilt	1.5	1.5	0% tilt
out of guarantee size						
30	35.30	0.90	0.20	39.22	1.00	0.22
40	47.07	1.20	0.26	52.29	1.33	0.29
50	58.83	1.49	0.33	65.37	1.66	0.37
60	70.60	1.79	0.40	78.44	1.99	0.44
70	82.36	2.09	0.46	91.52	2.32	0.51
80	94.13	2.39	0.53	104.59	2.66	0.59
90	105.90	2.69	0.59	117.66	2.99	0.66
100	117.66	2.99	0.66	130.74	3.32	0.73
110	129.43	3.29	0.73	143.81	3.65	0.81
120	141.20	3.59	0.79	156.88	3.98	0.88
130	152.96	3.89	0.86	169.96	4.32	0.95
140	164.73	4.18	0.92	183.03	4.65	1.03
150	176.49	4.48	0.99	196.10	4.98	1.10
160	188.26	4.78	1.06	209.18	5.31	1.17
170	200.03	5.08	1.12	222.25	5.65	1.25
180	211.79	5.38	1.19	235.33	5.98	1.32
190	223.56	5.68	1.25	248.40	6.31	1.39
200	235.33	5.98	1.32	261.47	6.64	1.47
210	247.09	6.28	1.39	274.55	6.97	1.54
220	258.86	6.57	1.45	287.62	7.31	1.61
230	270.62	6.87	1.52	300.69	7.64	1.69
240	282.39	7.17	1.58	313.77	7.97	1.76
250	294.16	7.47	1.65	326.84	8.30	1.83
260	305.92	7.77	1.72	339.91	8.63	1.91
270	317.69	8.07	1.78	352.99	8.97	1.98
280	329.46	8.37	1.85	366.06	9.30	2.05
out of guarantee size						

Tolerance

- Throw ratio <= +- 5%

Brightness

- Typical 800 ANSI lm /Minimum 680 ANSI lm
  <Condition> Spoke light mode “White” on Service Menu. (Bright mode)

Contrast

- Full on / Full off :Typical 2000 : 1 /Minimum 1300 : 1 (Spoke on/Spoke off)
  <Condition> Spoke light mode “White” and “Black” on Service Menu.
  at the center of a spoke mode black pattern
  <Condition> White: Same as full on brightness
  Black: True black (no dithering noise)
  <Condition> Bright mode
  The white rectangles shall be at 100% gray and the black rectangles at 0% gray.
  Illuminance measurements shall be made at the center of each of the rectangles.

Uniformity

- Typical Japan 75% /Minimum 65% (Full on)
  <Condition> Spoke light mode “White” on Service Menu. (Bright mode)

Temperature

- Operating: 5°C -- 35°C
- Storage: -10°C -- 60°C

Maximum Humidity

- Operating: 5°C -- 35°C , 0 - 80 %RH (Max.), non-condensing
- Storage: -10°C -- 60°C , 0 - 80 %RH (Max.), non-condensing

Acoustic noise level

- typical : 35dB(A)/Normal mode.
- typical : 32dB(A)/Low mode.
- noise measurement:
  Follows ISO 7779, A-weighted sound pressure level measurement
  7200 rpm color wheel rotation and with DVD operation.

Average Lamp life and lumen maintenance

- Life survival rate is more than 50%, at 2000 hours (Normal mode)
- Life survival rate is more than 50%, at 3000 hours (Low mode)

Altitude

- Operating 0~2,500 ft 5°C~35°C
  2,500~5,000 ft 5°C~30°C
  5,000~10,000 ft 5°C~25°C
- Storage 40,000 ft

MTBF

- Operating more than 12,000 hrs (90% confidence level)

Accessories

- Standard:
  AC Power cord (1.8m)
  Composite Video cable
  15 pins D-Sub VGA cable (for EMEA SCART)
  SCART to S-Video/VGA adaptor (for EMEA)
  Wireless Remote Control
  User manual (English)
  Battery AA type x 2
  (Mangan type, no mercury. For remote controller.)
  Lens Cap
  Additional Label for Remote Receiver (2 sheets)
  Cushion
  Warranty Card
  Customer Card(Postcard)

1-2 DVD Module

Half Height / Top loading DVD ROM/loader
Interlace, digital video output ITU-656 YUV(4:2:2) from MPEG decoder to DMD
Contrast, brightness, saturation, tint, sharpness, gamma adjustment open up
Code for turning on/off region all, this feature is for engineer testing only and won't be release to end-user.

Function

- Compatible - This player is compatible with DVD, VCD, SVCD, HDCD, CD, CD-R

CR-RW, MP3, WMA, discs and KODAK CD pictures.

- Parental lock- Parents may lock the player according to the content of the discs to avoid the influence of violent and pornographic discs to children.
- Multi-language and multi-subtitle function - The player can support discs with about 8 different languages and 8 subtitles.
- Multiple angles for viewing - With this player, you may enjoy DVD discs with views of different angles. (Provided the DVD disc has a Multi-angle feature embedded in it).
- Multiple picture proportion mode - With this player, you can select different picture modes to match the projector screen, according to the picture requirement.

Regulation

Destination		Mark (label)	Requration
North America	Safety	UL/cUL	UL60950,CSA22.2 No.60950 3rd Edition :2000
			Or
			UL60950-1,CSA22.2 No.60950-1 1st Edition :2003 (Better)
	EMC	FCC logo	CFR 47 Part15 (Line Radiation: CISPR22)
		(Class-B)	ICES-0003
Europe	Safety	CE	73/23/EEC EN60950 3rd Edition :2000 Or EN60950-1 1st Edition :2001（Better）
	EMC	CE	89/336/EEC EN55022:1998+A2:2003 EN55024:1998+A2:2003 EN61000-3-2:2000 EN61000-3-3:1995+A1:2001
Australia	Safety	-	Based on CB report
	EMC	C-Tick	AS/NZS CISPR22:2002
			Need margin over "Uncertainty of Measurement results" of EMC measurement lab.
Korea	EMC	MIC	
Japan	EMC		J55022(H14) Class-B
	Safety		J60950(H14) S-mark for Japan
	Insulation Class		Class-1 (without 3-2 plug) & Class-01 (with 3-2 plug) are necessary.

1-3 Compatible Modes

Analog

Compatibility	Resolution	V-Sync [Hz]	H-Sync [KHz]	Frame lock
VGA	640x480	60	31.5	○
	640x480	72	37.9	×
	640x480	75	37.5	×
	640x480	85	43.3	×
	720x400	70	31.5	×
	720x400	85	37.9	×
SVGA	800x600	56	35.2	×
	800x600	60	37.9	○
	800x600	72	48.1	×
	800x600	75	46.9	×
	800x600	85	53.7	×
XGA	1024x768*	60	48.4	○
	1024x768*	70	56.5	×
	1024x768*	75	60.0	×
	1024x768*	85	68.7	×
SXGA	1280x1024*	60	64	○
	1280x0124*	75	80	×

Note: "*" means "compressed".

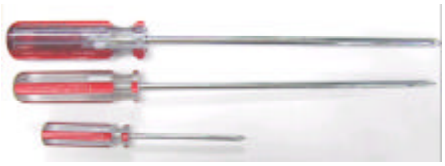
Chapter 2

Disassembly Procedure

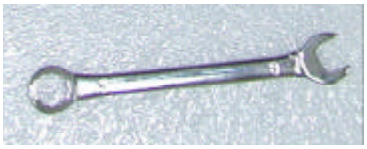
Equipment Needed

Long Nose Nipper (Left)
Angle Cutting Nipper (Right)

Hex Sleeves 5mm (Top)
Screw Bit (-) 101



Screw Bit (+) : 107, 102, 101
(from top to bottom)



Wrench (8mm)

Nipper

Appearance

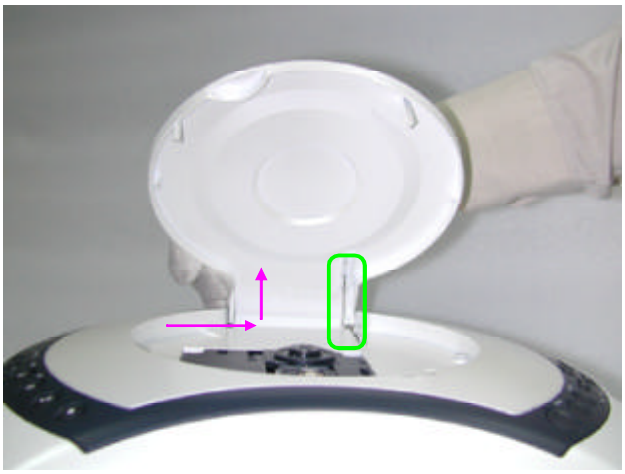
The Front Side

The Rear Side

2-1 Remove Lamp, DVD Module and Control Keypad Board

Step1: Take off DVD Cover.

*Note: please follow the direction shown in pink, first right and upward.



DVD Cover Spring

DVD Cover

Step2: Turn unit facedown, unscrew one screw to remove Lamp Cover.

Step3: Unscrew two screws to pull out Lamp Module.

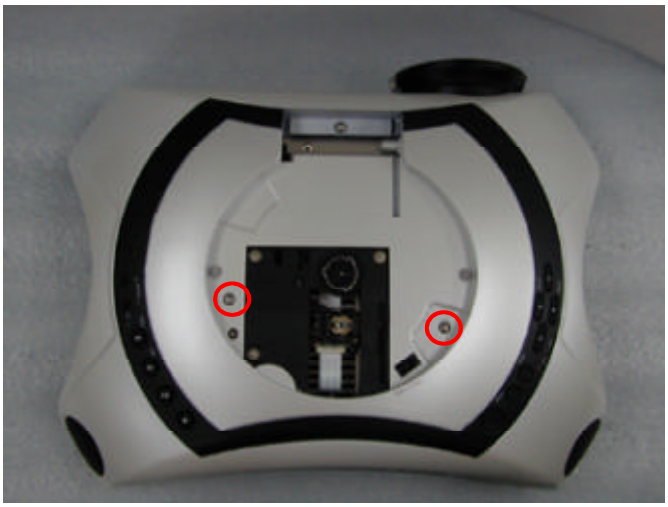
Step2

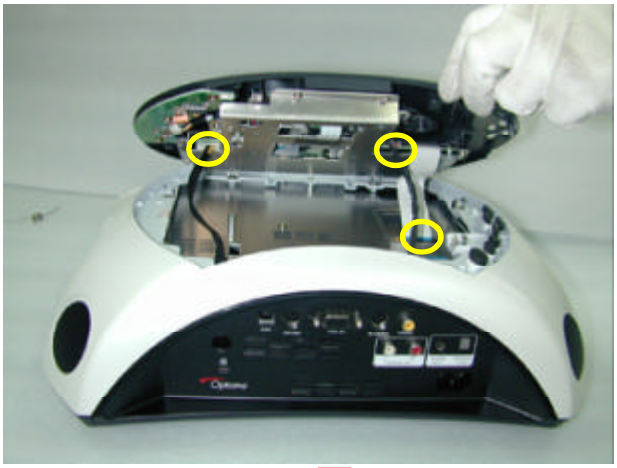
Lamp Cover

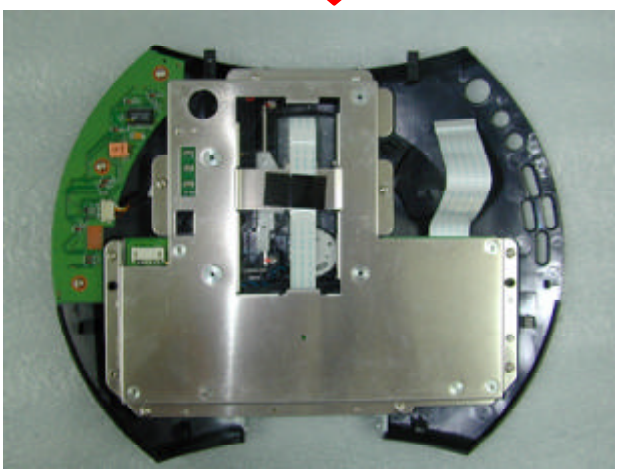
Step3

Lamp

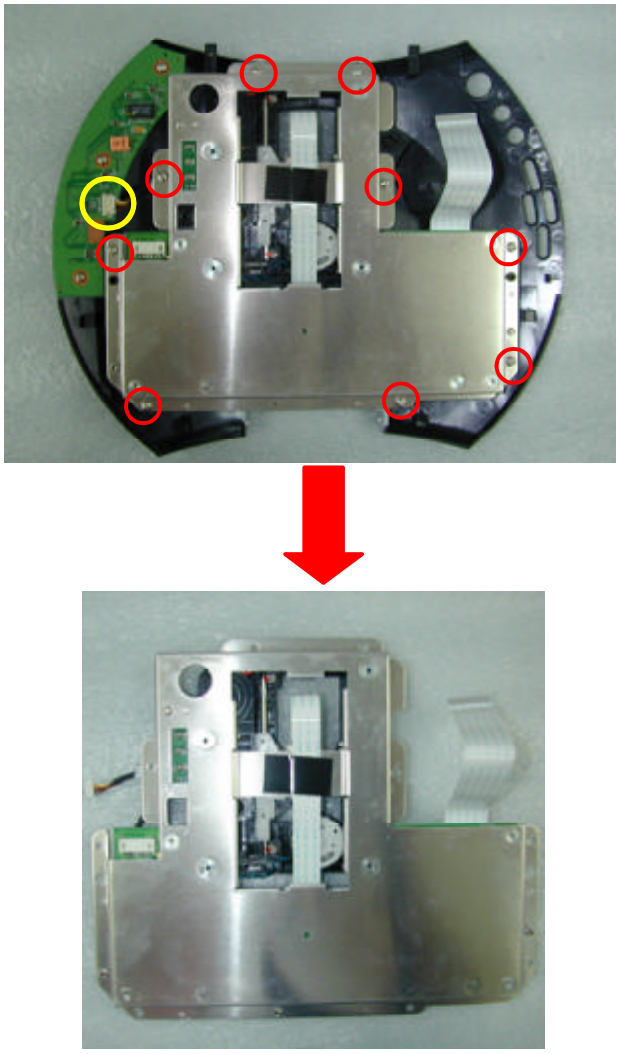
Step4: Uncrew two screws and unplug three wires shown in yellow to take off DVD Module.



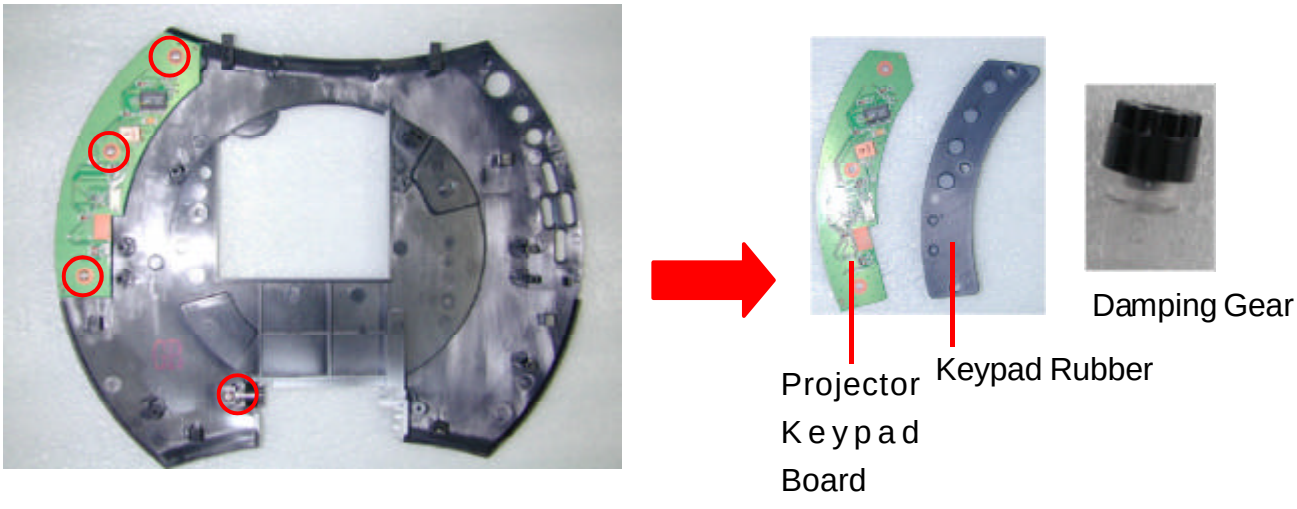




Step5: Unscrew nine screws and unplug one wire to remove DVD Loader Module.

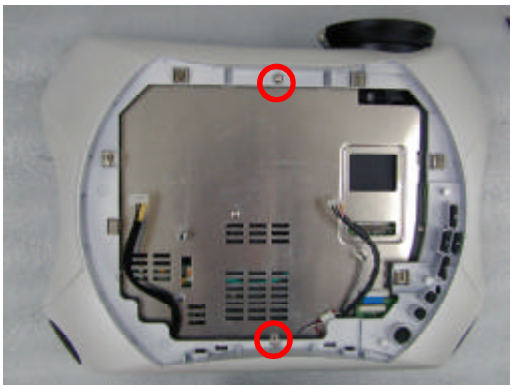


Step6: Unscrew four screws to remove DVD Keypad Board, Keypad Rubber and Damping Gear.



2-2 Remove Top Cover, Speaker, Keypad Board, Rear Cover, Fan Module, Main Board and Audio Board.

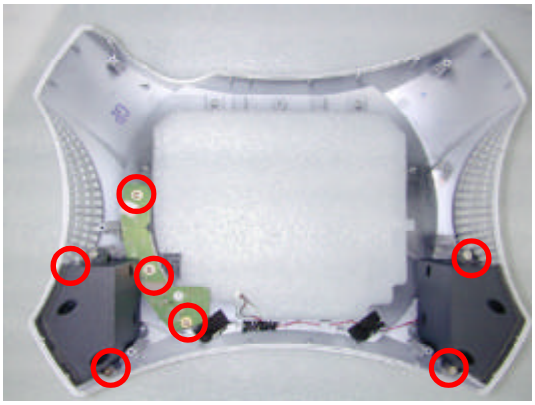
Step1: Unscrew eight screws and unplug two wires to remove Top Cover.



The obverse side.

The reverse side

Step2: Unscrew seven screws to remove Speakers and Keypad Board.

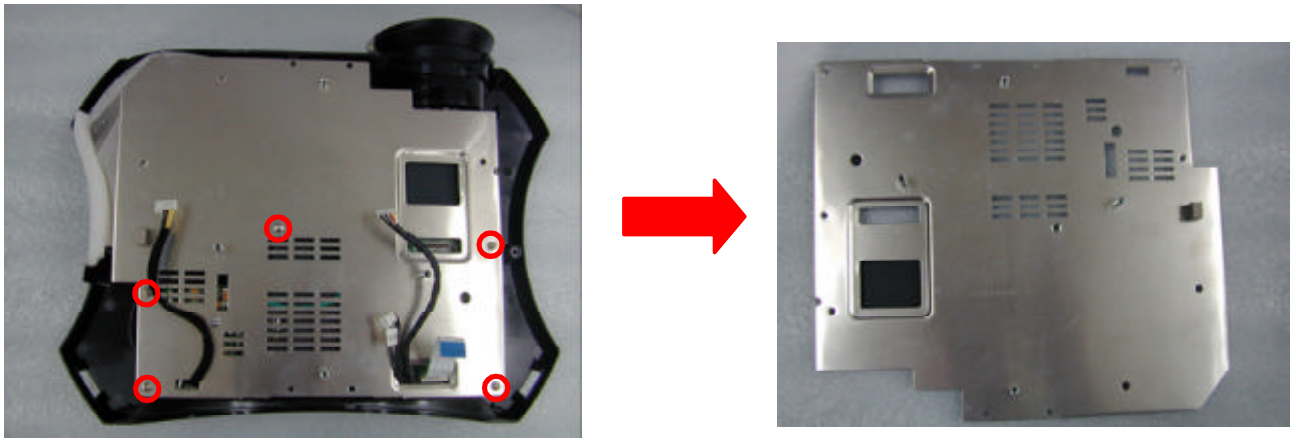


Top Cover

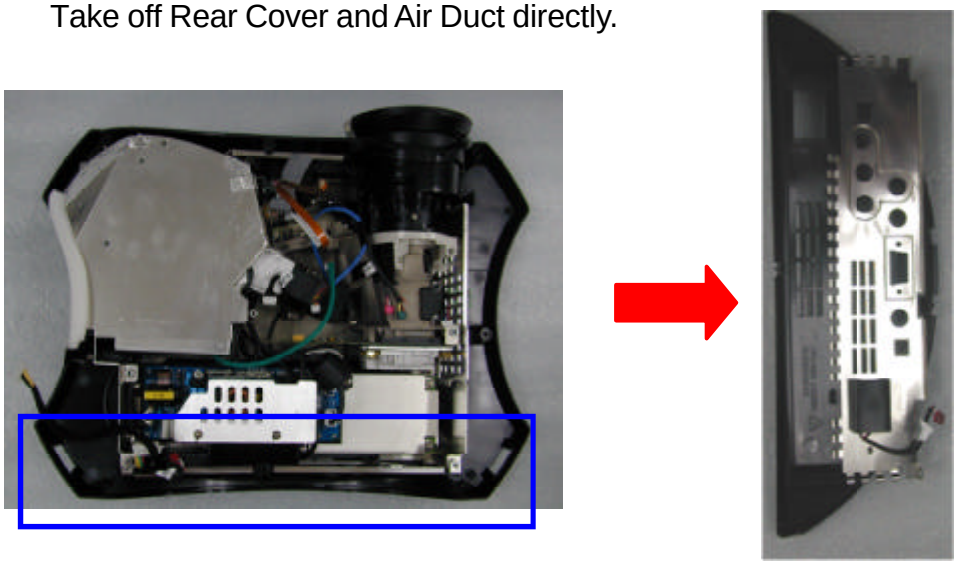
Speakers

Keypad Board

Step3: Unscrew five screws to remove Shielding.

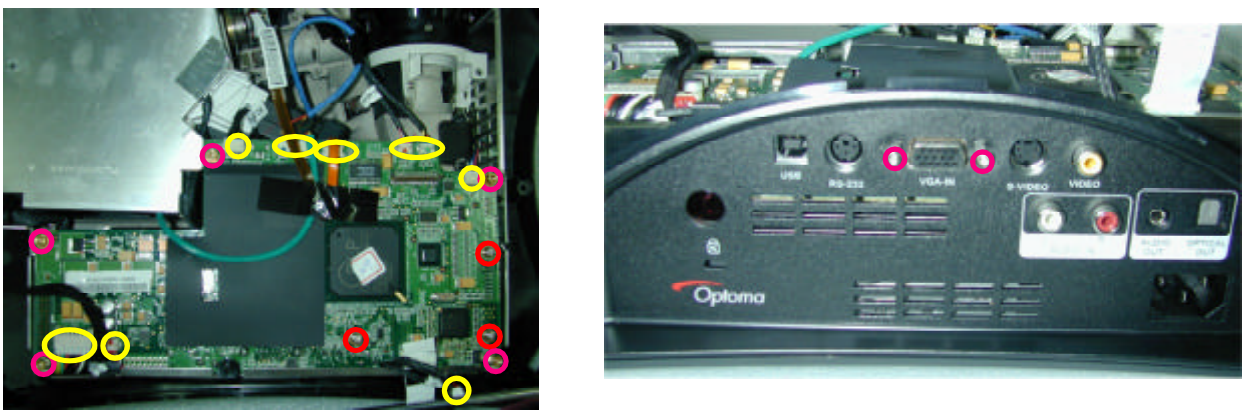


Step4: Take off Rear Cover and Air Duct directly.

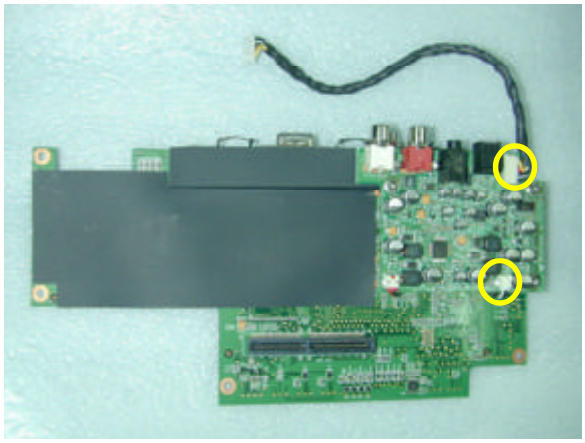


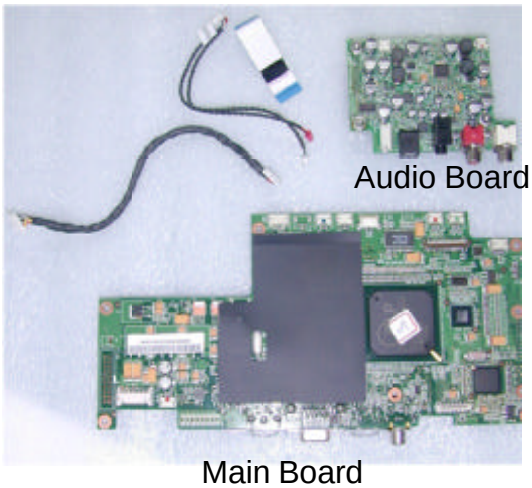
Rear Cover

Step5: Unscrew three screws, five hex srews and uplug nine wires to remove Main Board and Audio Board.



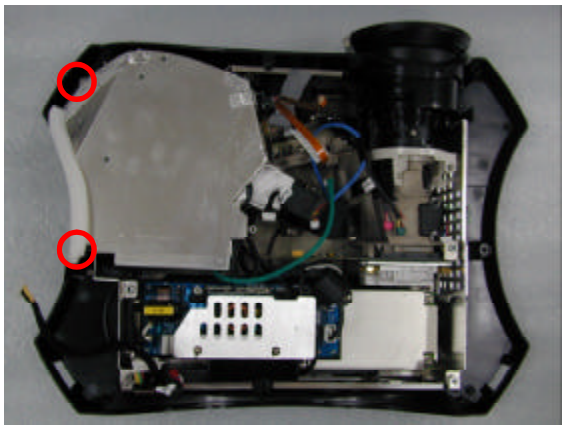
Step6: Unplug two connectors to separate Audio Board from Main Board.

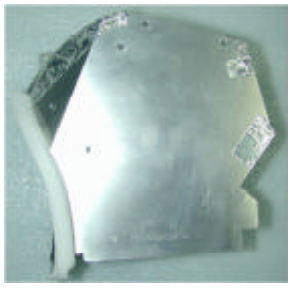




Main Board

Step7: Unscrew two screws to remove Air duct Module.





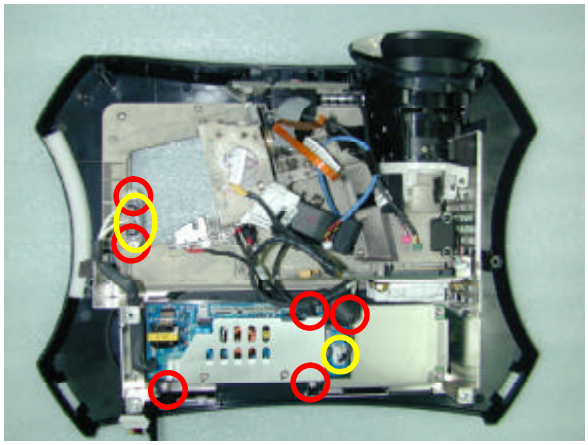
Air duct Module

Step8: Take off Rear Cover and Air Duct directly.

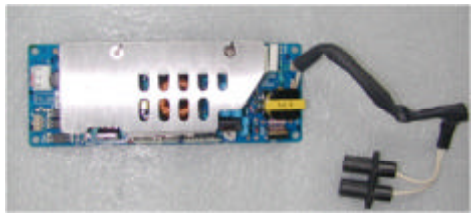
Fan Module

2-3 Remove Lamp Driver, LVPS, Engine, Color Wheel

Step1: Unscrew six screws and unplug two wires to remove Lamp Driver.

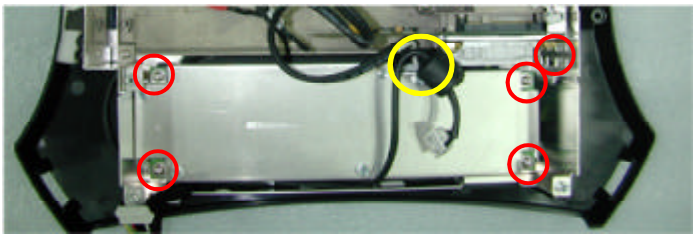


Lamp Driver Holder

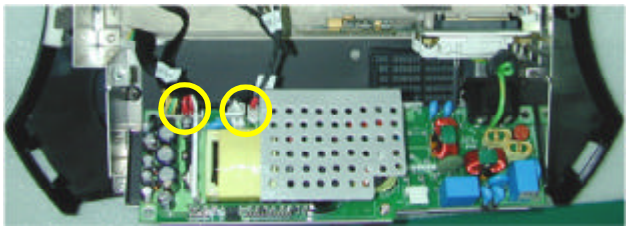


Lamp Driver

Step2: Unscrew five screws and unplug four wires to remove LVPS.

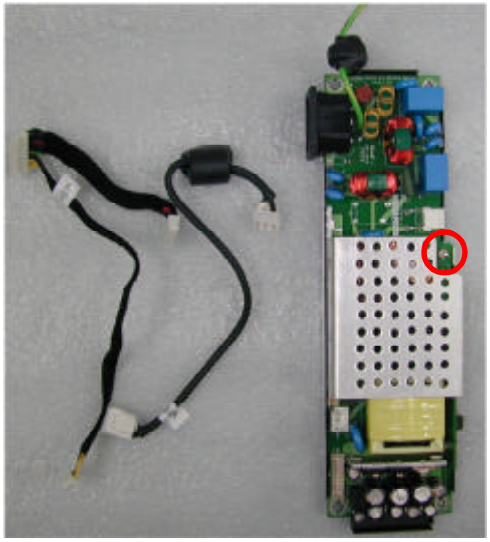


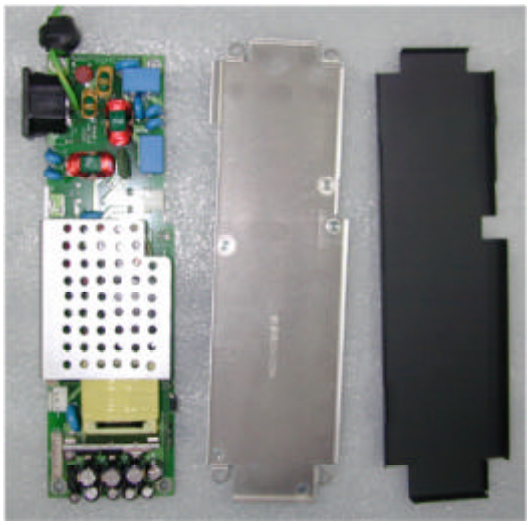
The obverse side of LVPS



The reverse side of LVPS

Step3: Unscrew one screw to separate Shielding and Mylar from LVPS.

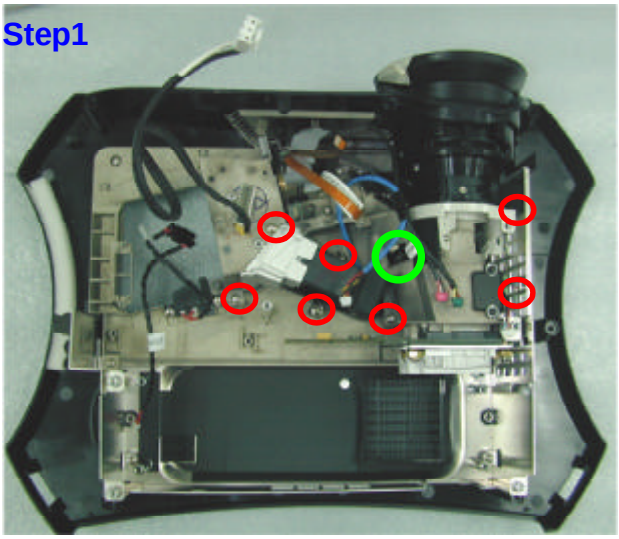


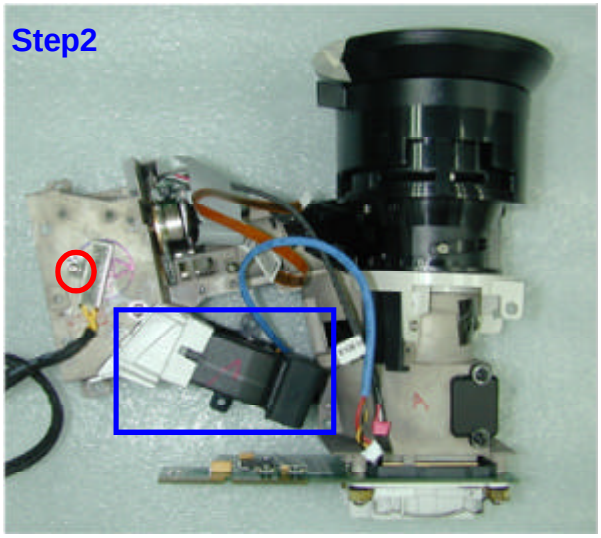


LVPS Shielding Maylar

Step4: Unscrew seven screws and tear one tape off to remove Engine.

Step5: Remove Fan Module directly from Engine and unscrew one screw to remove Thermal Switch.

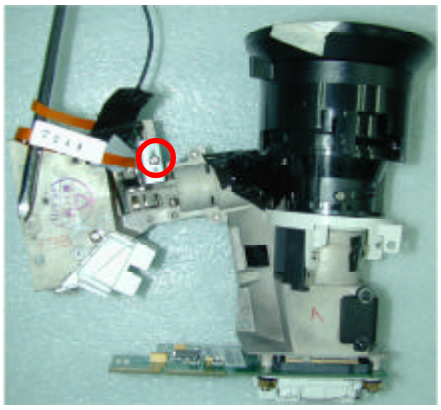


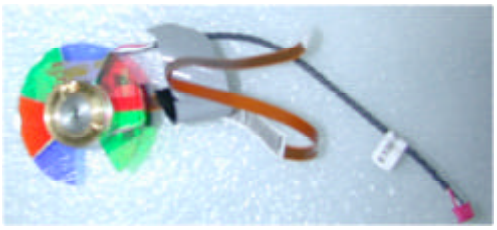


Fan Module

Thermal Switch

Step6: Unscrew one screw to remove Color Wheel.

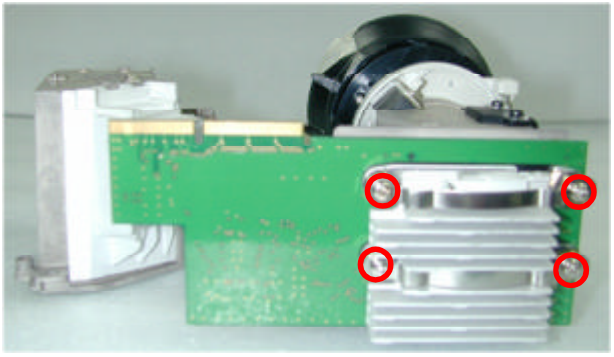


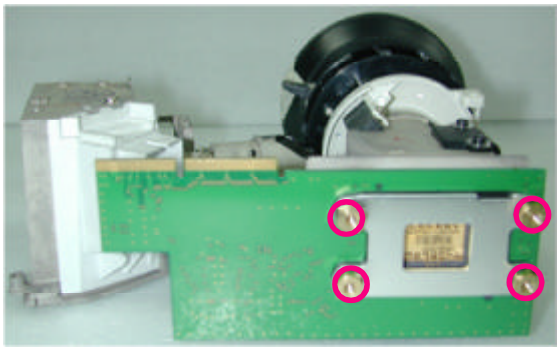


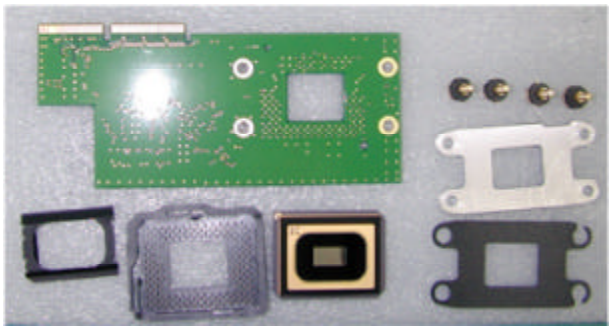
Color Wheel

2-4 Remove DMD Board, DMD Chip, Thermal Board, Front Cover, Elevator Module and Keypad Board.

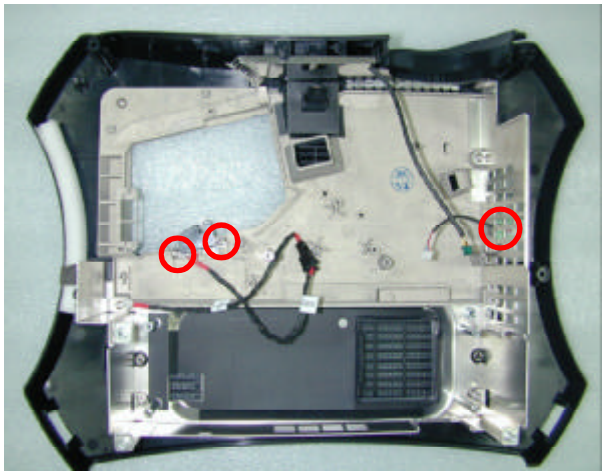
Step1: Unscrew four screws and four hex screws to remove Heat Sink, DMD Board and DMD Chip.

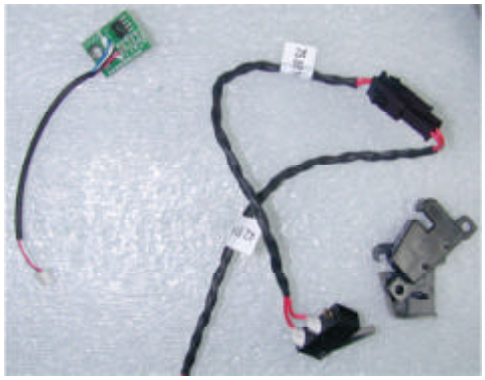




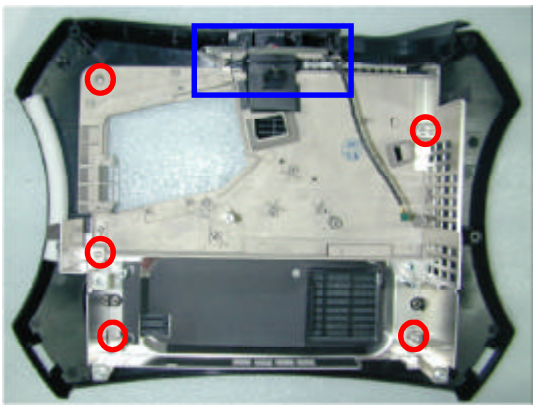


Step2: Unscrew three screws to remove Thermal Board and Interrupt Switch.





Step3: Unscrew six screws to remove Base Buttom, Shielding and Buttom Shielding.



Shielding

Front Shielding

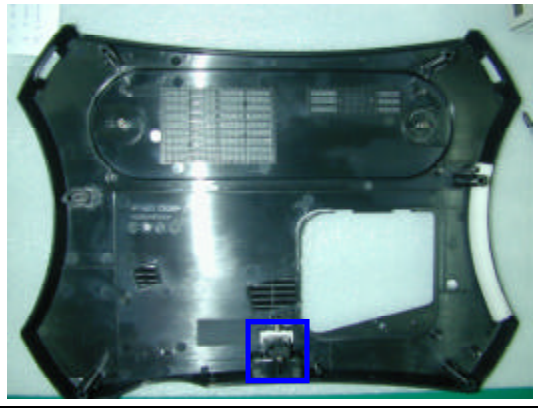
Base Buttom

Buttom Shielding

Step4: Unscrew one screw to remove Front Cover and take off IR Sensor Board directly from Front Cover.

IR Sensor Board

Step5: Separate Elevator and Buttom Cover.



Elevator Module

Chapter 3

Troubleshooting

3-1 Equipment Needed

- PC or pattern generator
- DVD player (Video, S-Video, Audio)
- Quantum Data 802B or CHROMA 2327

3-2 LED Indications Table

Message	Power LED (Blue)	Temp LED (Orange)	Lamp LED (Red)
Standby State (Input power cord)	Flashing	○	○
Power On/Lamp lighting	☼	○	○
Power Off/Cooling	☼	○	○
Error (Thermal Failed)	☼	☼	○
Error (Fan Failed)	☼	Flashing	○
Error (Lamp Failed)	☼	○	☼

3-3 Main Procedure

No Power

- Ensure that the power cord and AC power outlet are securely connected
- Check Lamp Cover and Interrupt Switch
- Ensure that all connectors are securely connected and aren't broken
- Check LVPS
- Check Lamp Driver
- Check Main Board

Auto Shut Down

- Check LED Status
  a. Lamp LED lit on
     - Check Lamp
     - Check Lamp Driver

- Check Main Board

b. Temp LED lit on
- Check Thermal Sensor
- Check Thermal Switch
- Check Fan

- Become “No Power”

*Please refer to “No Power” troublshooting

No Image

- Ensure that the signal cables and source are work as well. (If you connect multiple sources at the same time, use the “Source” button on the control panel to switch.)
- Ensure that all connectors are securely connected and aren’t broken
- Check Main Board
- Check DMD Board
- Check Color Wheel
- Check DMD Chip
- Check Engine Module

No Light on

- Ensure that all connectors are securely connected and aren’t broken
- Check Lamp Module
- Check LVPS
- Check Lamp Driver
- Check Main Board

Mechanical Noise

- Check Color Wheel
- Check Fan Module

Line Bar/Line Defect

- Sometimes it’s because of DMD chip and DMD board did not assemble properly
- Check DMD Board
- Check DMD Chip
- Check Main Board

Image Flicker

- Do “Reset(All data)” of the OSD Menu
- Ensure that the signal cables and source are work as well
- Check Lamp Module
- Check Color Wheel
- Check DMD Board
- Check Main Board

Color Abnormal
- Do “Reset(All data)” of the OSD Menu
- Adjust Color Wheel Index
- Check Main Board
- Check DMD Board
- Check Color Wheel

Poor Uniformity/ Shadow
- Ensure the projection screen without dirt
- Ensure the projection lens is clean
- Ensure the Brightness is within spec
- Check Engine Module

Dead Pixel/Dust (Out of spec.)
- Ensure the projection screen without dirt
- Ensure the projection lens is clean
- Clean DMD Chip and Engine Module
- Check DMD Chip
- Check Engine Module

Garbage Image
- Ensure that the signal cables and source work as well.
- Check Main Board
- Check DMD Board

Remote Control/ Control Panel Failed
- Remote Control
  a. Check Battery
  b. Check Remote Controller
  c. IR receiver
  d. Check Main Board
- Control Panel
  a. Check FPC
  b. Check keypad
  c. Check Main Board

Function Abnormal
- Do “Reset(All data)” of the OSD Menu
- Check Main Board
- Check DMD Board

Disk cannot be read
- Check if the disk is scratched.
- Check if the anti-static protection of DVD Loader Module is unsoldered.
- Check if the region code is correct or not.
- Check DVD Loader Module.

Chapter 4

Function Test

Test Equipment

- IBM PC with XGA resolution (Color Video Signal & Pattern Generator)
- DVD disc NTSC x 1, PAL x 1
- HDTV Tuner or Source (480p, 720p, 1080i), equipped with “S-Video”, “Component”, “Composite” interface.
- Minolta CL-100
- Quantum Data 802B or CHROMA2327

Change parts/update	Version Update	Color Wheel Index	ADC Calibration	Video Calibration	Reset Lamp Hour	Factory Reset	EDID	DVD Region Code
Main Board	V	V	V	V		V	V	
Firmware	V						V	
Color Wheel		V						
Lamp Module					V			
DVD Loader Module								V

Test Condition

- Circumstance Brightness : Dark room less than 2.5 lux.
- Inspection Distance : 1.5m~3m for functional inspection
- Screen Size : 60 inches diagonal (wide)
- After repairing each DV-10, the unit should be burn-in (Refer to the table below).

Symptom	Burn-in Time
Normal Repair	2 Hours
NFF	4 Hours
Auto Shutdown	6 Hours

Test Display Modes & Pattern

Function Test Display Pattern

Item	Test Content	Pattern	Specification	Remark
1	Frequency & Tracking	Fine Line Moire	Eliminate visual wavy noise by Rsync, Frequency or Tracking selection.	Figure 1
2	Contrast/Brightness	64 RGBW scale	Gray level should be distinguishable and without color abnormal.	Figure 2
3	R, G, B and White Color Performance	R, G, B and White Color	Each R, G, B color should be normal without color abnormal issue.	Figure 3~6
4	Screen Uniformity	Full White	Should be compliant with 60%.(Minimum)	Figure 6
5	Dead Pixel (Bright pixel)	Full Black	Cannot accept any bright pixel	Figure 7
	Dead Pixel (Dark pixel)	Full White	The numbers of dead pixel should be smaller or amount to 6 pixel.	Figure 8
6	Blemish (Bright)	Full Black / Gray 30	The bright blemish cannot be accepted if the problem appear with Gary 30 pattern.	Figure 7, 8
7	Blemish (Dark)	Full white / Blue 60	The dark blemish cannot be accepted if the problem appear with Blue 60 pattern.	Figure 6,9
8	Focus	Text Pattern	The text in the corner should be clear after adjust the focus ring.	Figure 10
9	Boundary	Boundary Frame	Horz. And Vert. position of video should be adjustable to be the screen frame.	Figure 11
10	Light Leak	Gray 10	The unit can't accept the leakage is brighter than Gray 10 pattern	Figure 12
11	HDTV	94% White	No discolor	Figure 13
12	ADC Calibration (PC Calibration)	Calibration Pattern	Calibration Pattern should be in full screen mode	Figure 14

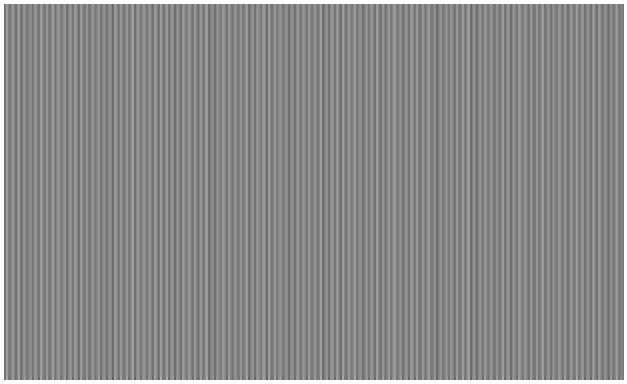


Figure 1. Fine Line Moire

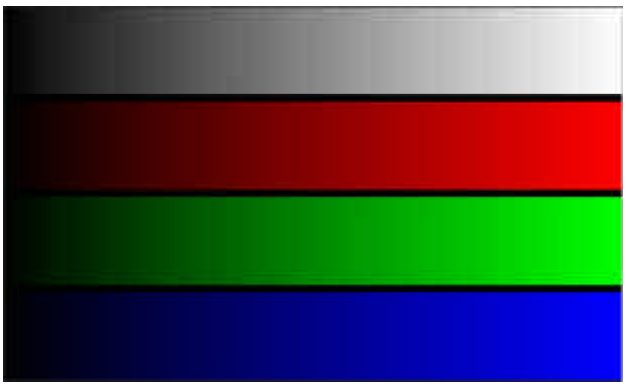


Figure 2. 64 RGBW Scale

Figure 3. Red Pattern

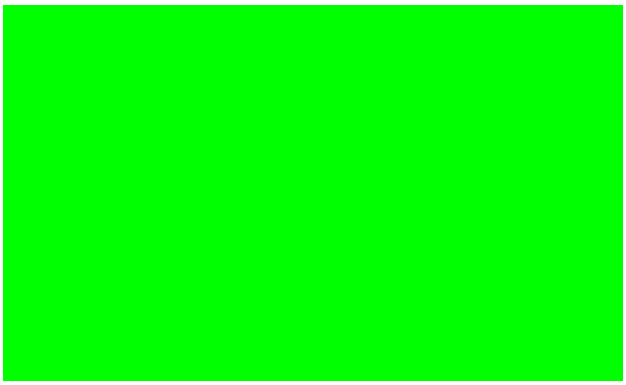


Figure 4. Green Pattern

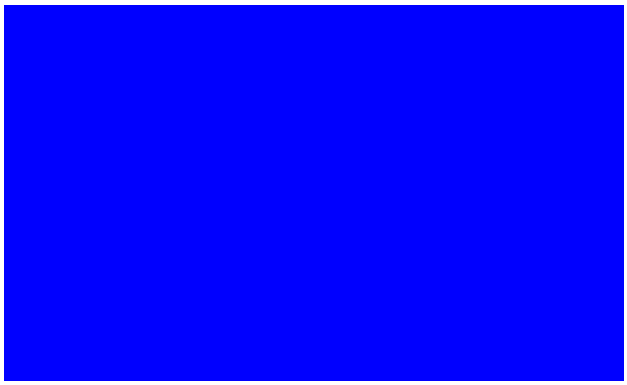


Figure 5. Blue Pattern

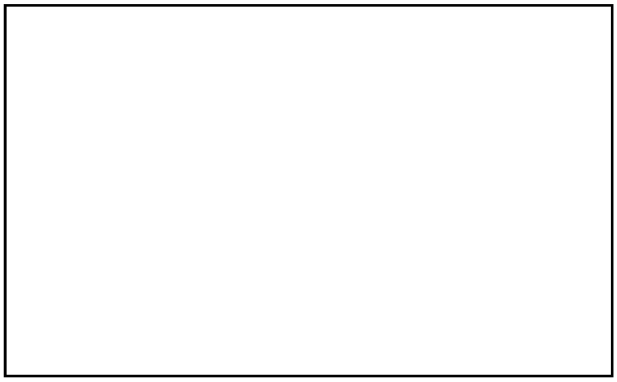


Figure 6. Full White

Figure 7. Full Black

Figure 8. Gary 30 Pattern

Figure 9. Blue 60 Pattern

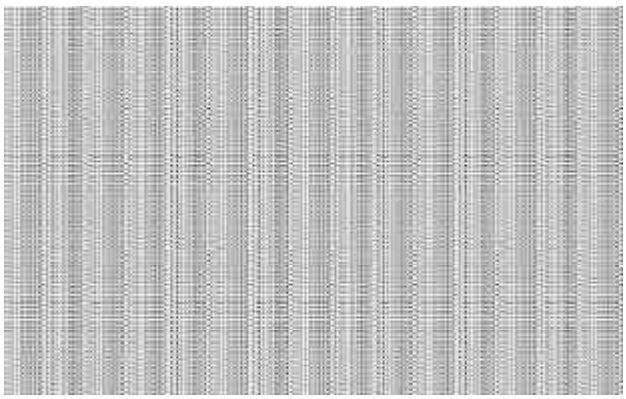


Figure 10. Text Pattern

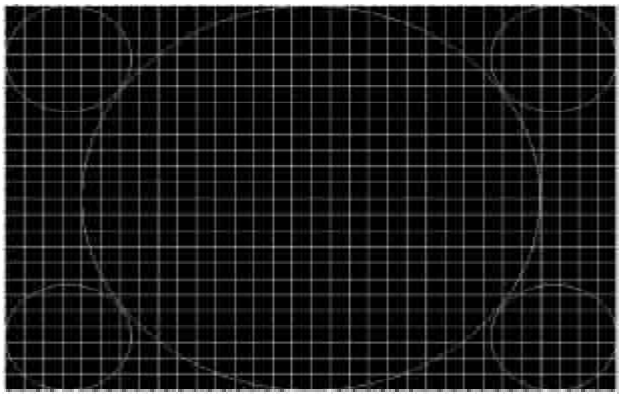


Figure 11. Boundary Frame

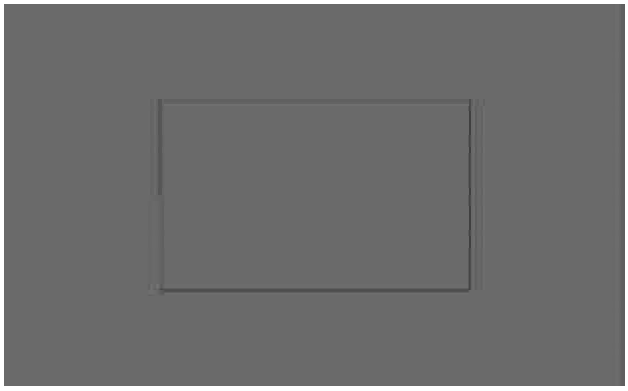


Figure 12. Gary 10 Pattern

Figure 13. 94% white

Figure 14. Calibration Pattern

Inspection Procedure

- **DVD Function check**

  Test Material : DVD

  Test Procedure :

  (1) Put DVD in DV10

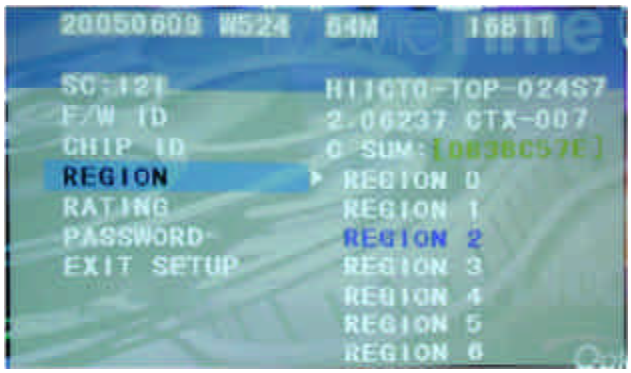
  (2) Press “Play” to check if image is normal

  (3) Check DVD keypad function (FWD, REW, Stop, Volume +/-)

- **Check Region**

  Turn the unit on and wait till the image shows.

  And then press “1”, “2”, “3”, “4” buttons on Remote Control to check if the region code is right or not.



- **Frequency and Tracking**

  Test Signal : 1024x768@60Hz

  Test Pattern : Line Moire Pattern

  * Check and see if image sharpness and focus are well performed.
  * If not, readjust by following steps.

    (1) Select “Frequency” function to adjust the total pixel number of pixel clock in one line period.

    (2) Then select “Tracking” function and use right or left arrow key to adjust the value to minimize video flicker.

- **Boundary**

  Test Signal : 1024x768@60Hz

  Test Pattern : Boundary Frame

  * Adjust Re-sync or Frequency/Tracking/H. Position/V. Position to the inner of the screen.

- **Focus**

  Test Signal : 854x480@60Hz

  Test Pattern : Text Pattern

  * Adjust the center clearly, meanwhile, one slightly vague corner in the image is allowed

- **HDTV**

  Equipment : Quantum Data 802B or CHROMA 2327

  Test Signal : 480p, 702P, 1080I

  Test Pattern : Color Bar

  If the test result was discoloration or flickering, please return the unit back to the repair center.

- **Color Performance**

  Test Signal : 854x480@60Hz

  Test Pattern : 64 RGBW scale Pattern and Gray 16 Pattern

  * Please check and ensure if each color is normal and distinguishable
  * If not, please adjust color index of the service mode.

- **Screen Uniformity**

  Test Signal : 854x480@60Hz

  Test Pattern : Full White Pattern

  * Please check and ensure the unit is under the spec.
  * Please check and see if it's in normal condition. If not, please return the unit to repair area.
  * Please check and see if there are dead pixels on DMD chip
  * The total numbers and distance of dead pixels should be complaint with the spec.

- **Light Leak**

  Test Signal : 854x480@60Hz

  Test Pattern : Gray 10 Pattern

  * Please check and see if the light leaks*Notice*

  * The unit cannot accept the leakage is brighter than Gary 10 pattern

  Notice : light leak on reflective edge, eye-catcher, bond wires and exposed metal.

Calibration

Once Main Board is changed, firmware upgrade should be done as well.

- **Video Calibration**

  Test Signal : HDTV Signal (720p)

  Test Pattern : 94% (Figure 13)

  Get into service mode to **select video calibration.**

- **ADC Calibration (PC Calibration)**

  Test Signal : 800x600@60Hz

  Test Pattern : Calibration Pattern (Figure 14)

  * Calibration Pattern should be in full screen mode, white above and black below.

Note: 1. Refer to the above Calibration's test signal.

2. Please refer to the following steps for entering service mode.

3. Choose and access video calibration & ADC calibration for correction in service mode. Choose "Exit" to leave the service mode after all.

- **Dead Pixel (Bright/Dark pixel)**

  Test Signal : 854x480@60Hz

  Test Pattern : Full Black Pattern and Full White Pattern

  (1) Bright Pixel :

  Test Pattern : Full Black Pattern

  -Please check and ensure that the unit cannot accept any bright pixel.

  -If not, please return the unit to repair area.

  (2) Dark Pixel :

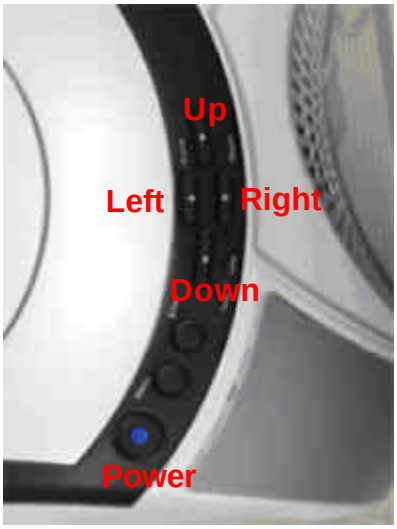
  Test Pattern : Full White Pattern

  -Please check and ensure that the pixel number should be smaller or amount to 6 pixels

  -If not, please return the unit to repair area.

Guide to Entering Service Mode and Factory Reset

- **Service Mode**
  - Please do the following steps to enter service Mode.
    Turn on the power and wait for the disappearance of Logo picture.
  - press “Power” button, “ ◀ (source) “, “ ◀(source)“, “ ▲ ” button sequentially to enter Service Mode Menu.



- **Factory Reset**
  After final QC step, we have to erase all saved change again and restore the factory defaults.
  Please enter the service mode, and then choose “Factory Reset” then choose “YES” and press enter to see if it works.
  This action will allow you to erase all end-user’s settings and restore the original setting.

Chapter 5

Firmware Upgrade Procedure

5-1 Equipment Needed

Software :

- DLP Composer
- DV-10 Firmware

Hardware :

- Power Cord
- USB Cable
- PC or Laptop
- DV-10 Projector

5-2 Hardware Setup Procedure

1. Connect USB Cable of PC to USB port of DV-10 Projector.

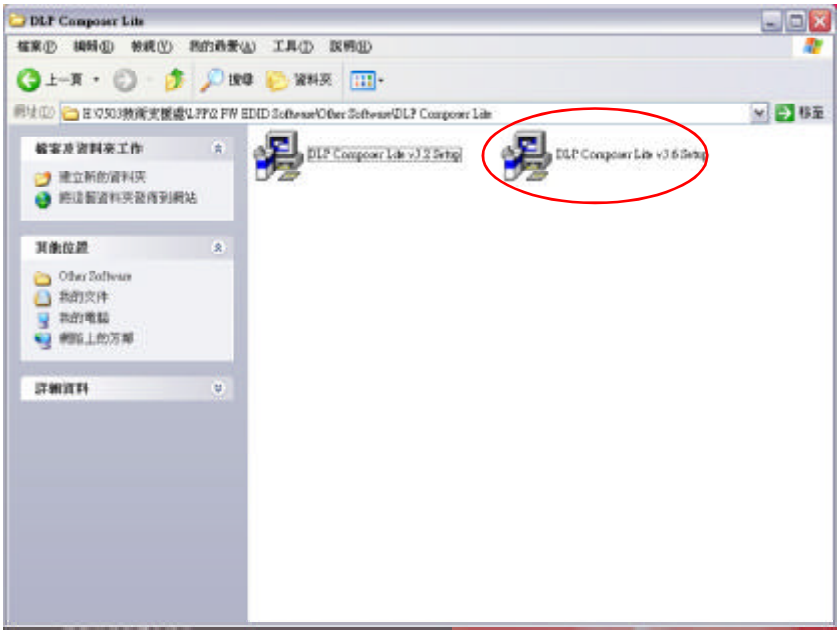
USB Cable

USB Port

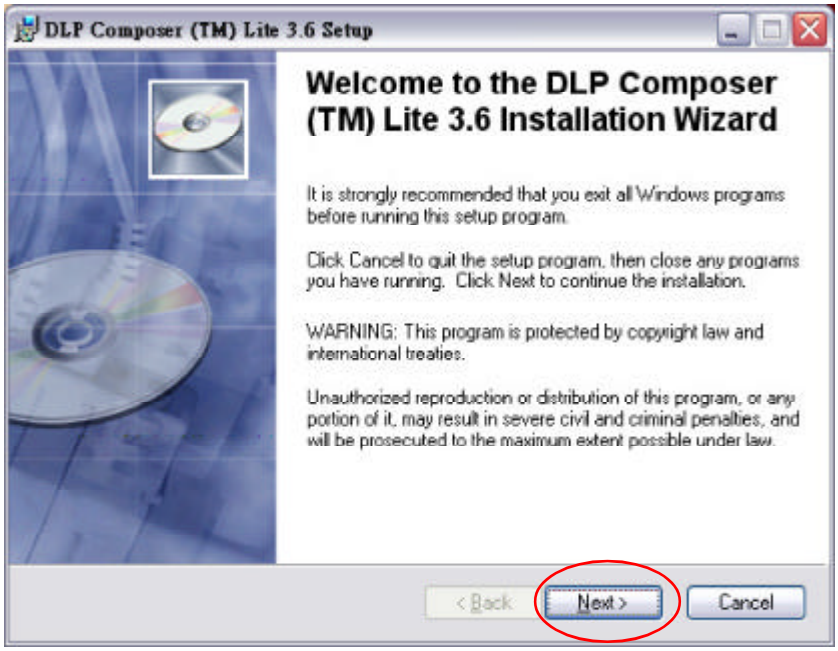
5-3 Firmware Progarm Installation Procedure

5-3.1 DLP Composer Lite Setup Procedure

1. Choose “DLP Composer Lite v3.6 Setup” program.

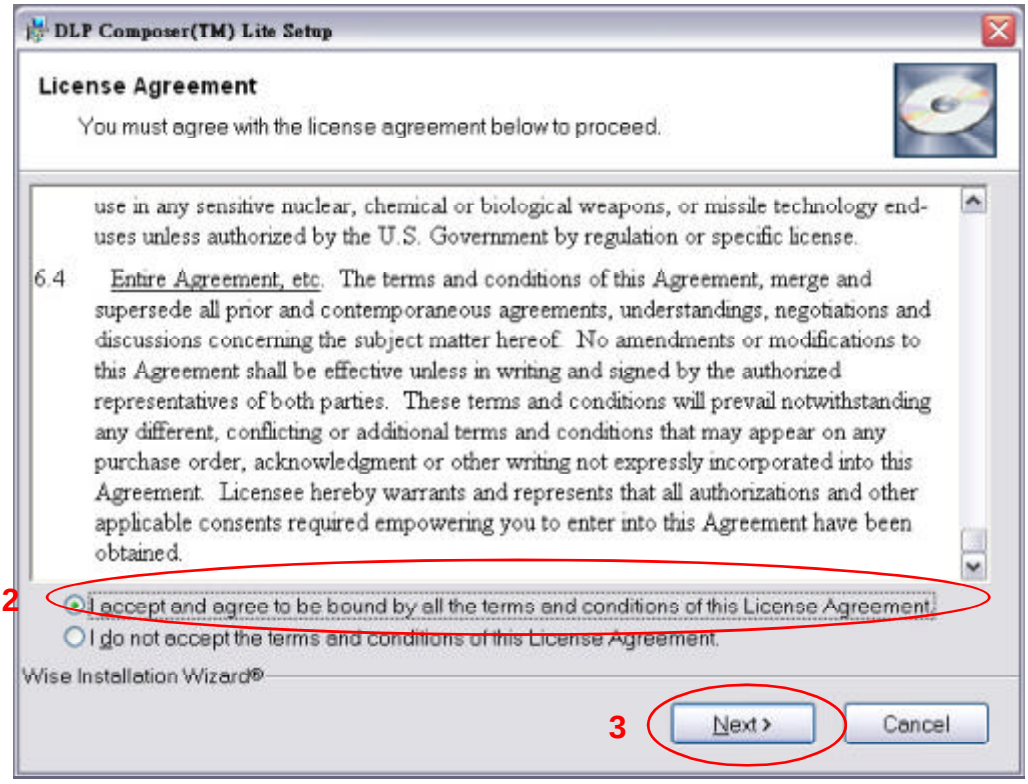


2. Click “Next” button.

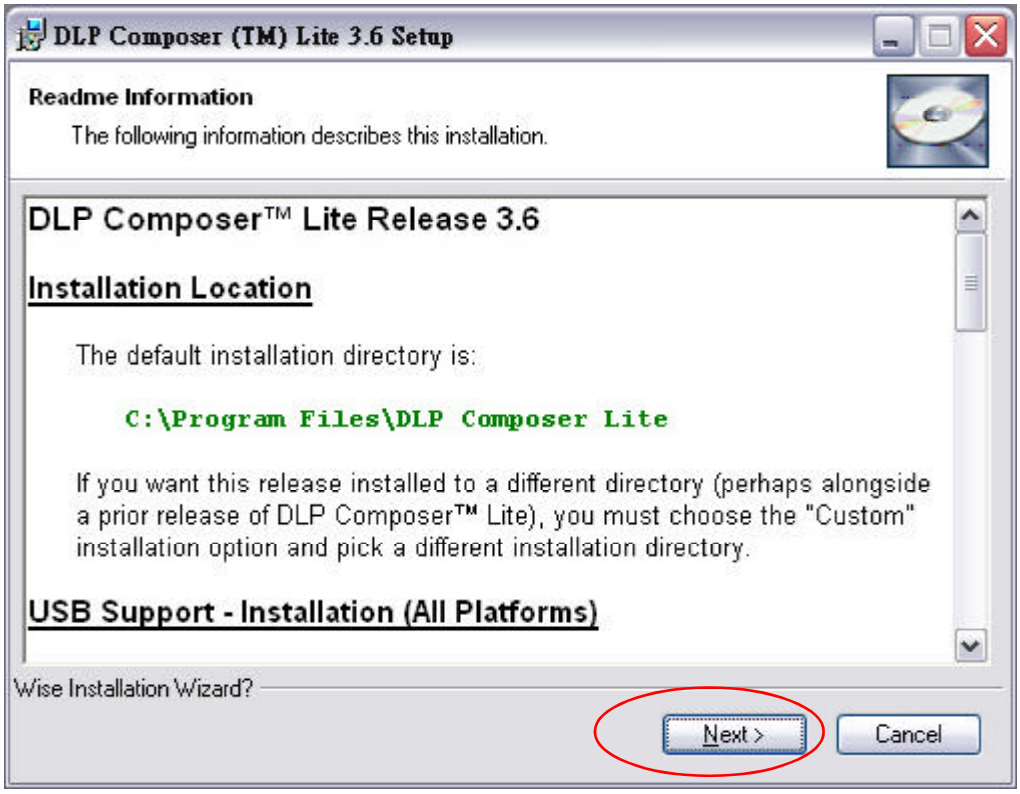

DLP Composer (TM) Lite 3.6 Setup
Welcome to the DLP Composer (TM) Lite 3.6 Installation Wizard
It is strongly recommended that you exit all Windows programs before running this setup program.
Click Cancel to quit the setup program, then close any programs you have running. Click Next to continue the installation.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

3. Reading the “License Agreement” rules, choose “I accept and agree to be bound by all the terms and conditions of this License Agreement” icon, then click “Next” button.

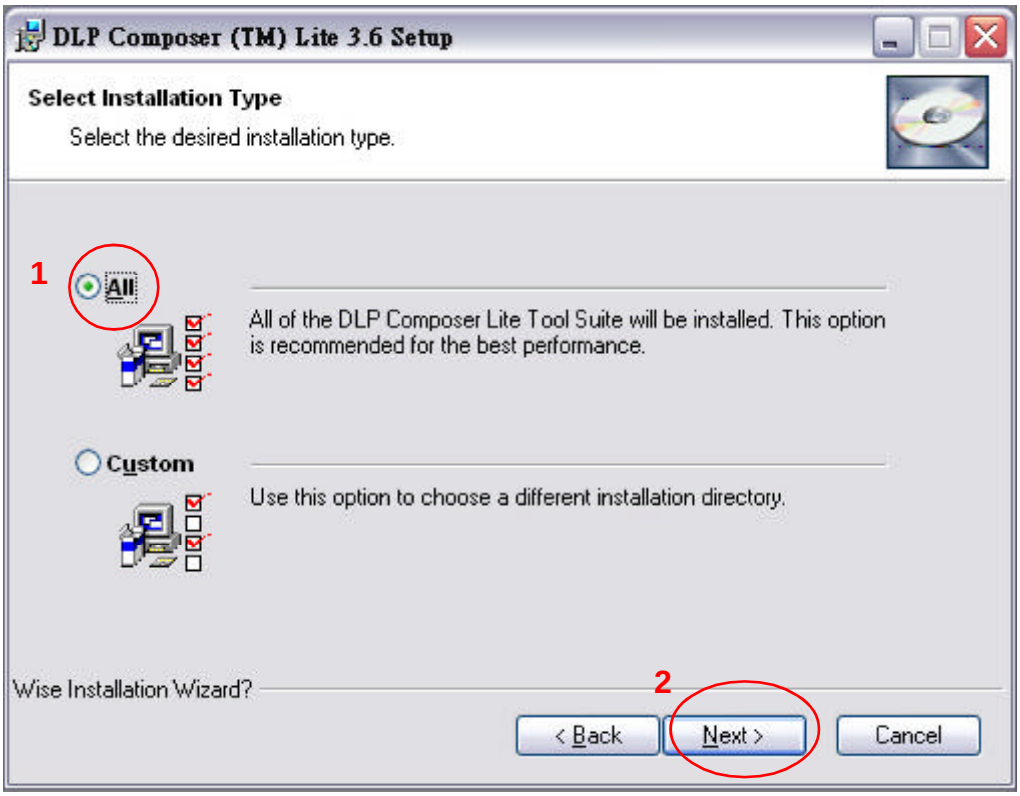
DLP Composer(TM) Lite Setup
License Agreement
You must agree with the license agreement below to proceed.
DLP Composer™ Lite Tool Suite
End-User License Agreement
1
Important - Read carefully: This End-User License Agreement ("Agreement") is a legal agreement between you (either an individual or entity) ("Licensee") and Texas Instruments Incorporated ("TI"). By installing, copying or otherwise using the Licensed Materials, you agree to abide by the following provisions. This Agreement is displayed for you to read prior to installing the Licensed Materials. If you choose not to agree with these provisions, do not download or install the Licensed Materials. If you have already paid for the Licensed Materials you may return them to TI for a full refund.
If you are a Chinese national or are employed by a Chinese company, you must contact Texas Instruments DLP™ Products and obtain a written license agreement that must be executed by you or the authorized representative of the company. Any attempt by a Chinese national or a
I accept and agree to be bound by all the terms and conditions of this License Agreement.
I do not accept the terms and conditions of this License Agreement.
Wise Installation Wizard®
Next >
Cancel


DLP Composer(TM) Lite Setup
License Agreement
You must agree with the license agreement below to proceed.
use in any sensitive nuclear, chemical or biological weapons, or missile technology end-uses unless authorized by the U.S. Government by regulation or specific license.
6.4 Entire Agreement, etc. The terms and conditions of this Agreement, merge and supersede all prior and contemporaneous agreements, understandings, negotiations and discussions concerning the subject matter hereof. No amendments or modifications to this Agreement shall be effective unless in writing and signed by the authorized representatives of both parties. These terms and conditions will prevail notwithstanding any different, conflicting or additional terms and conditions that may appear on any purchase order, acknowledgment or other writing not expressly incorporated into this Agreement. Licensee hereby warrants and represents that all authorizations and other applicable consents required empowering you to enter into this Agreement have been obtained.
2
I accept and agree to be bound by all the terms and conditions of this License Agreement.
I do not accept the terms and conditions of this License Agreement.
Wise Installation Wizard®
3
Next >
Cancel

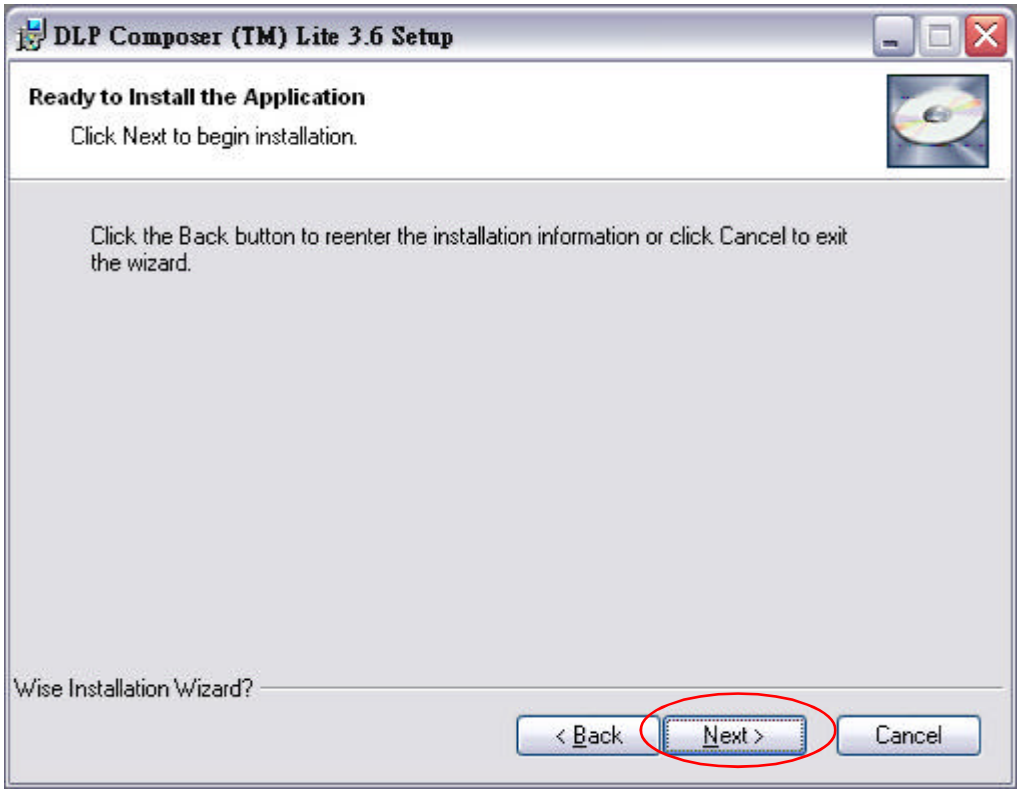
4. Click “Next” button.


DLP Composer (TM) Lite 3.6 Setup
Readme Information
The following information describes this installation.
DLP Composer™ Lite Release 3.6
Installation Location
The default installation directory is:
C:\Program Files\DLP Composer Lite
If you want this release installed to a different directory (perhaps alongside a prior release of DLP Composer™ Lite), you must choose the "Custom" installation option and pick a different installation directory.
USB Support - Installation (All Platforms)
Wise Installation Wizard?
Next >
Cancel

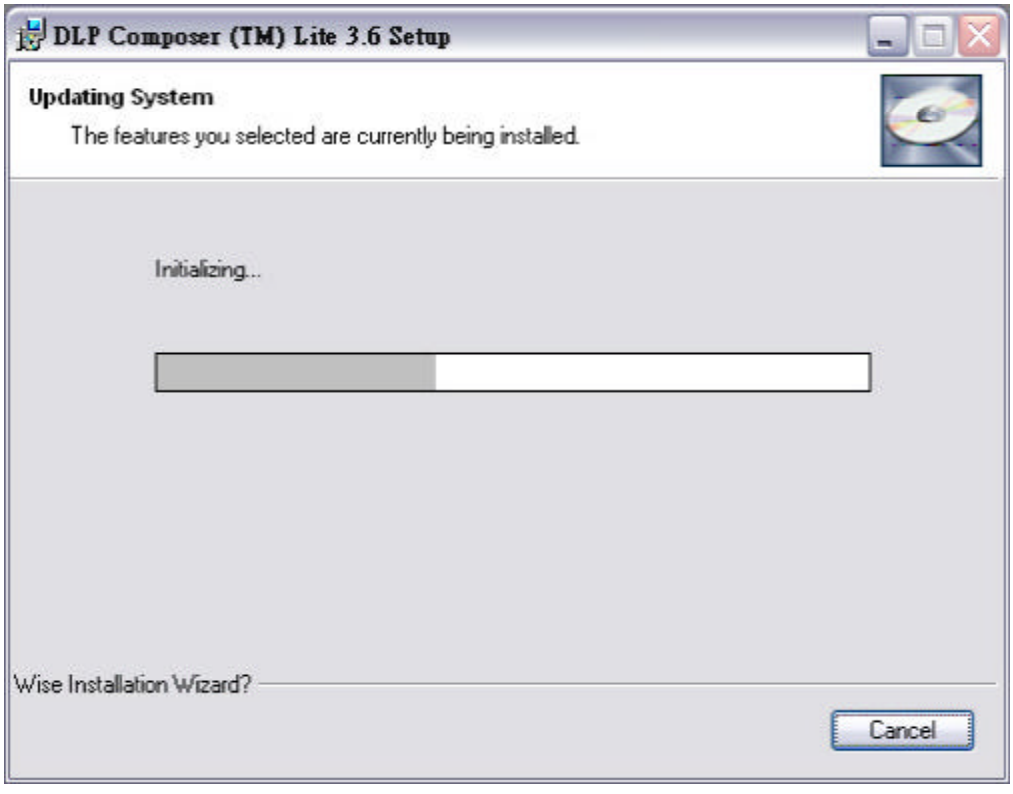
5. Choose “All” icon, then click “Next” button.


DLP Composer (TM) Lite 3.6 Setup
Select Installation Type
Select the desired installation type.
1
All
All of the DLP Composer Lite Tool Suite will be installed. This option is recommended for the best performance.
Custom
Use this option to choose a different installation directory.
Wise Installation Wizard?
2
< Back
Next >
Cancel

6. Click “Next” button.

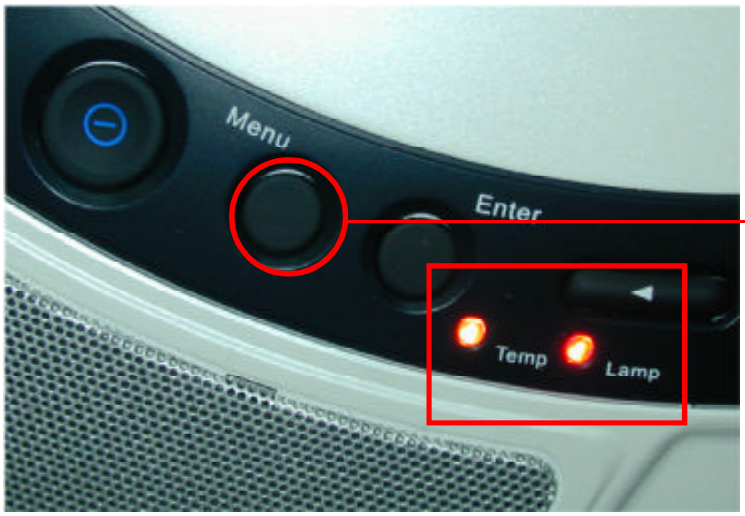

DLP Composer (TM) Lite 3.6 Setup
Ready to Install the Application
Click Next to begin installation.
Click the Back button to reenter the installation information or click Cancel to exit the wizard.
Wise Installation Wizard?
< Back
Next >
Cancel

7. The program is executing “Initializing” status.



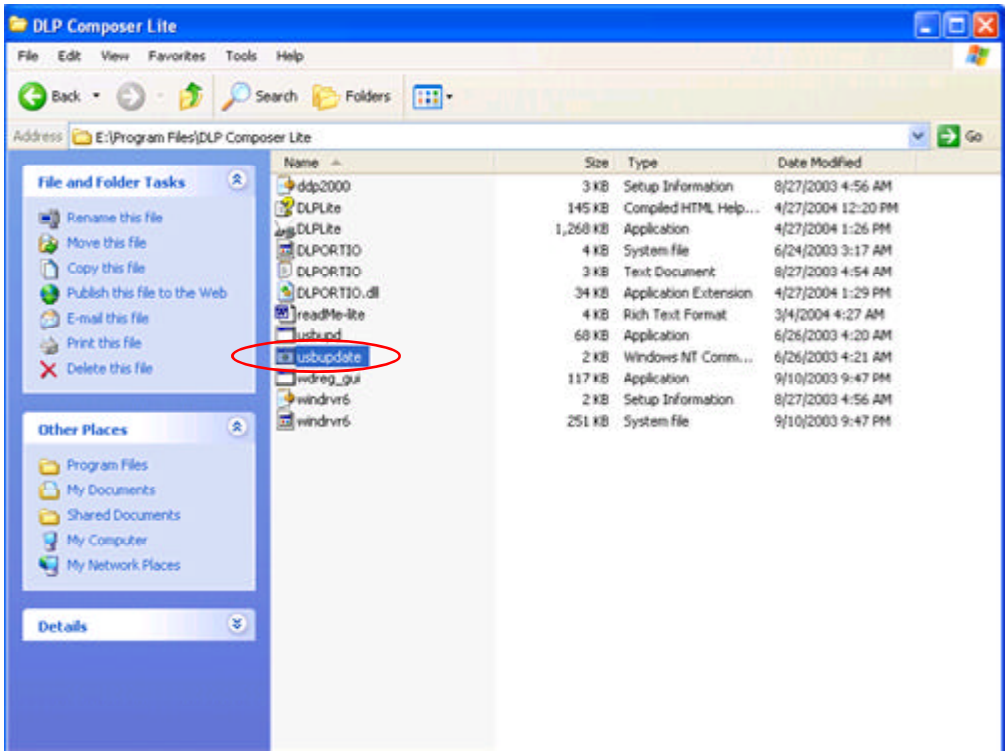
5-3.2 USB Driver Upgrade Procedure

1. Press “Menu “ button on projector, and hold it.
2. Plug power code and keep to hold “Menu“ button till the “TEMP”, and “LAMP” LED light turn to red.

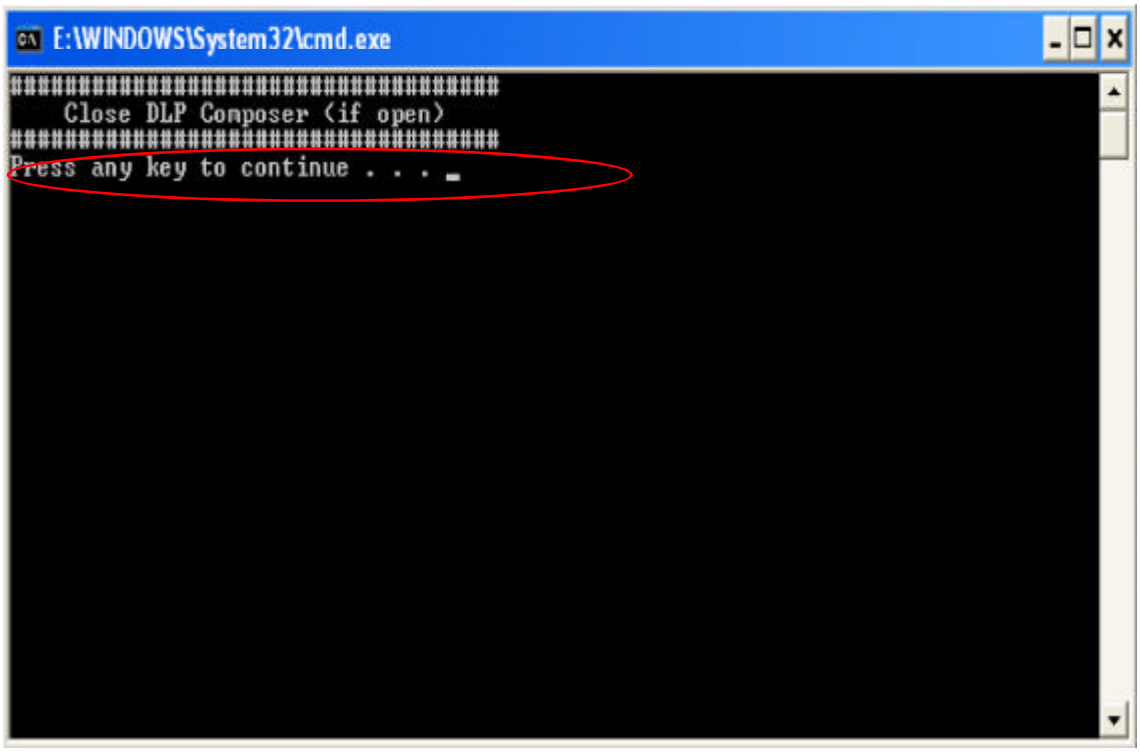


3. Execute the C:\Program files\DLP Composer\usbupdata.cmd.

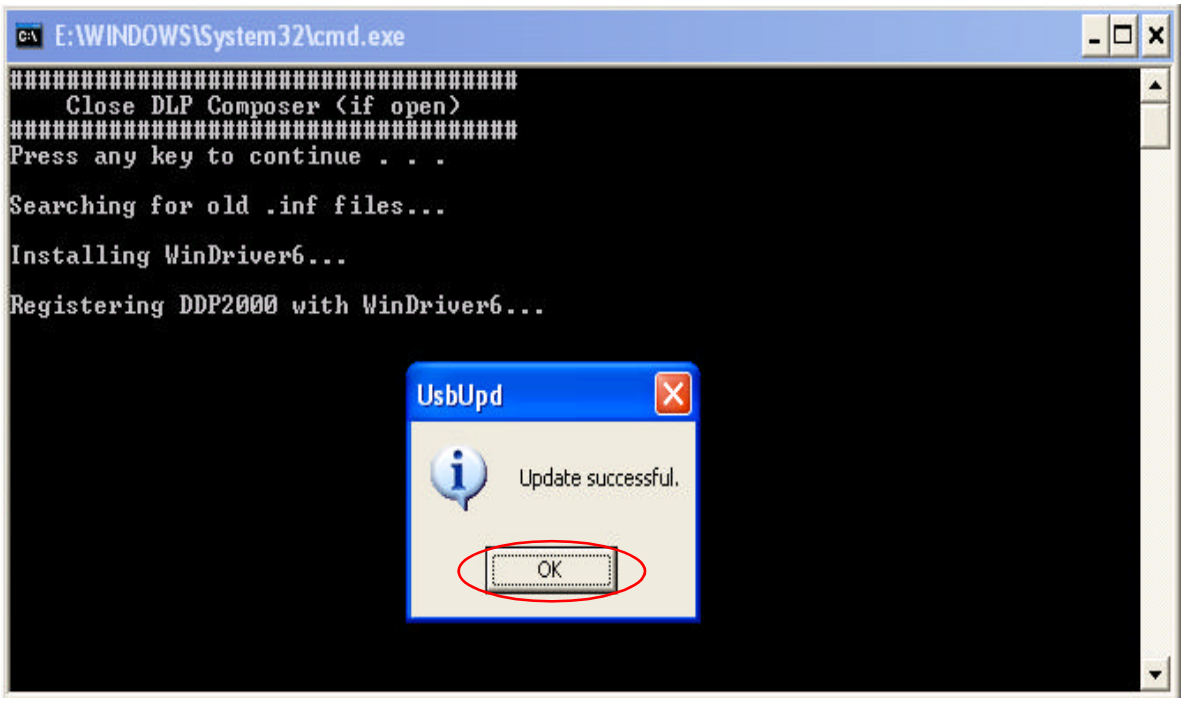
Note : The “DLP Composer” program must be closed first.


DLP Composer Lite
File Edit View Favorites Tools Help
Back Search Folders
Address E:\Program Files\DLP Composer Lite
File and Folder Tasks
Rename this file
Move this file
Copy this file
Publish this file to the Web
E-mail this file
Print this file
Delete this file
Other Places
Program Files
My Documents
Shared Documents
My Computer
My Network Places
Details
Name Size Type Date Modified
ddp2000 3 KB Setup Information 8/27/2003 4:56 AM
DLPLite 145 KB Compiled HTML Help... 4/27/2004 12:20 PM
DLPLite 1,268 KB Application 4/27/2004 1:26 PM
DLPORTIO 4 KB System file 6/24/2003 3:17 AM
DLPORTIO 3 KB Text Document 8/27/2003 4:54 AM
DLPORTIO.dll 34 KB Application Extension 4/27/2004 1:29 PM
readMe-lite 4 KB Rich Text Format 3/4/2004 4:27 AM
usbupd 68 KB Application 6/26/2003 4:20 AM
usbupdate 2 KB Windows NT Comm... 6/26/2003 4:21 AM
wdreg_gui 117 KB Application 9/10/2003 9:47 PM
windrvr6 2 KB Setup Information 8/27/2003 4:56 AM
windrvr6 251 KB System file 9/10/2003 9:47 PM

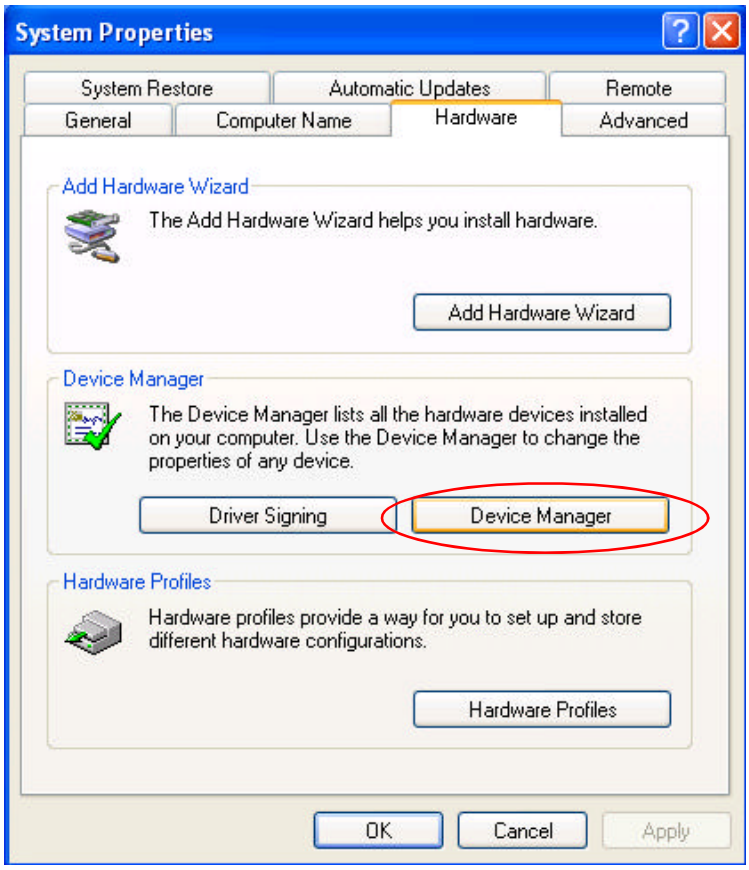
4. Type any key to continue. Then wait about a minute.



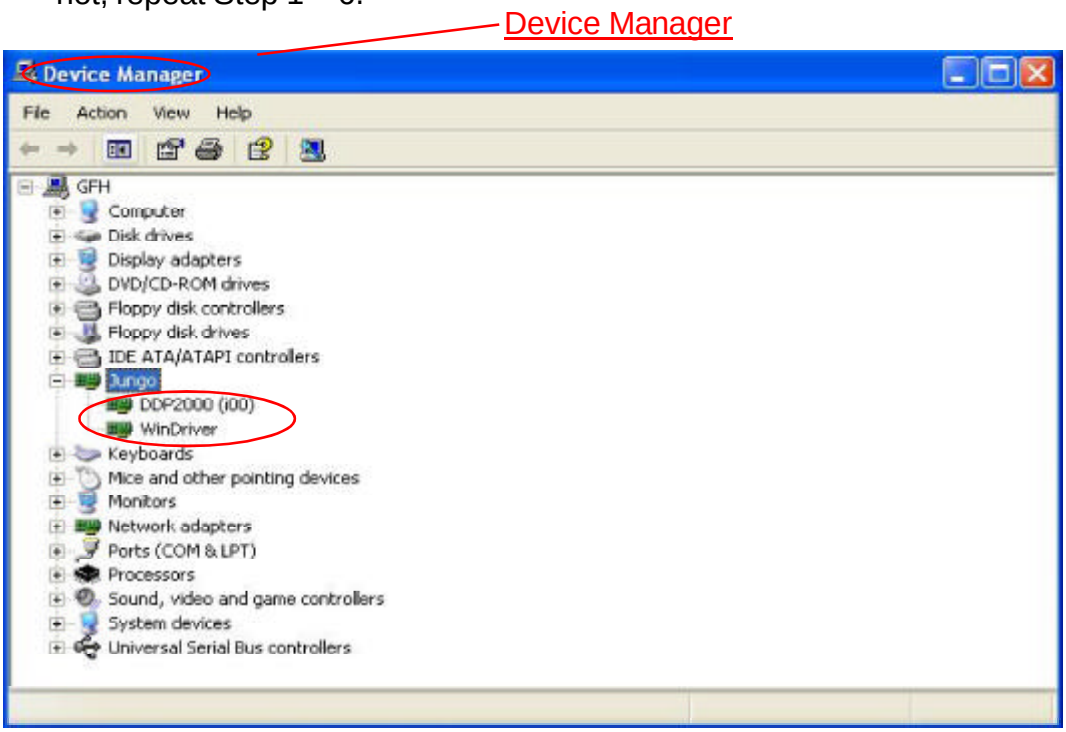
5. Click “OK”. The USB driver updated successfully.



6. Right click “My Computer” on the desktop. Select “Properties” on the popup menu to launch the “System Properties” window. Choose “Hardware” and then click “Device Manager.”

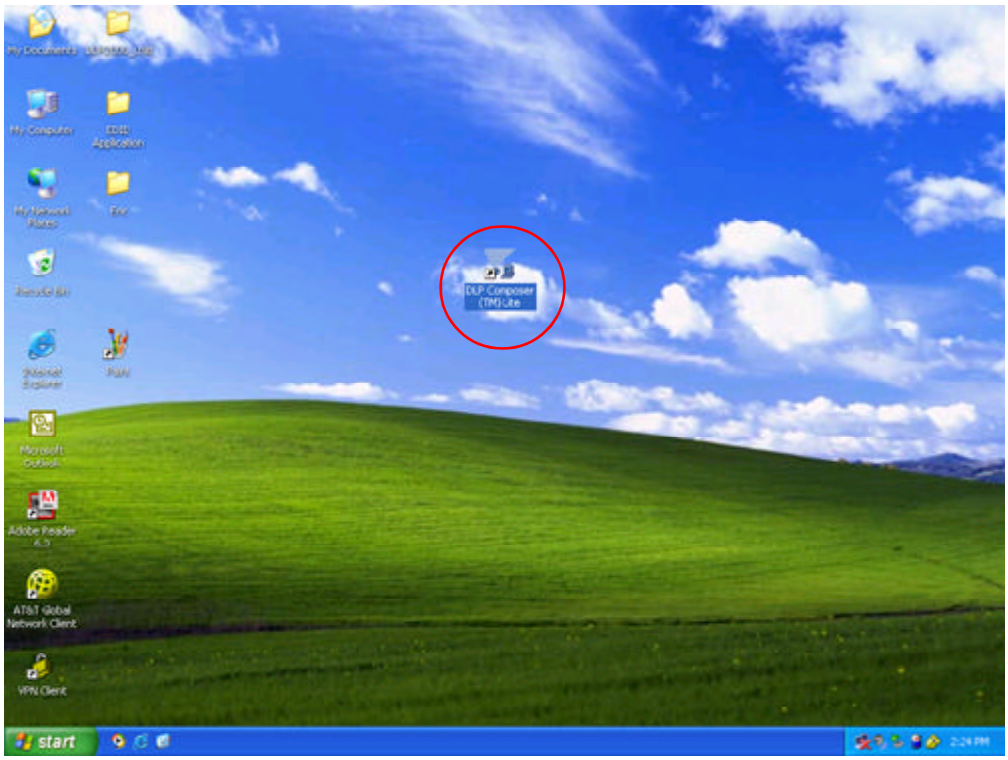


7. Click “Jungo” to assure “DDP2000” and “WinDriver” are properly installed. If not, repeat Step 1 ~ 6.

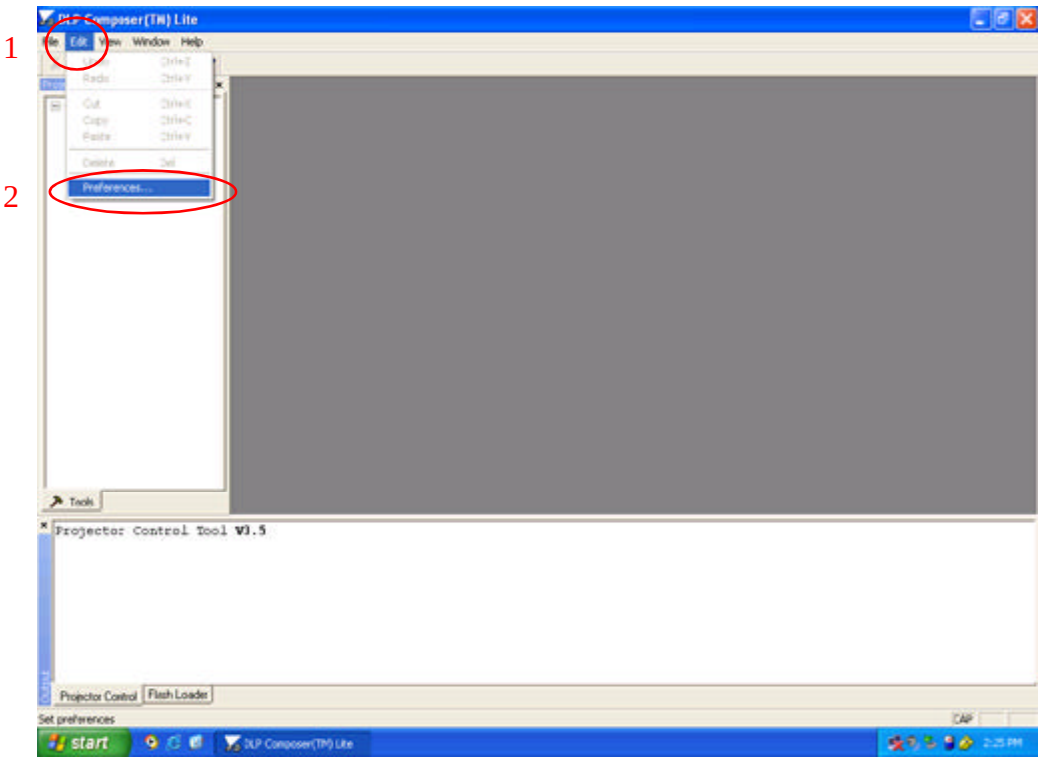


5-4 Firmware Upgrade Procedure

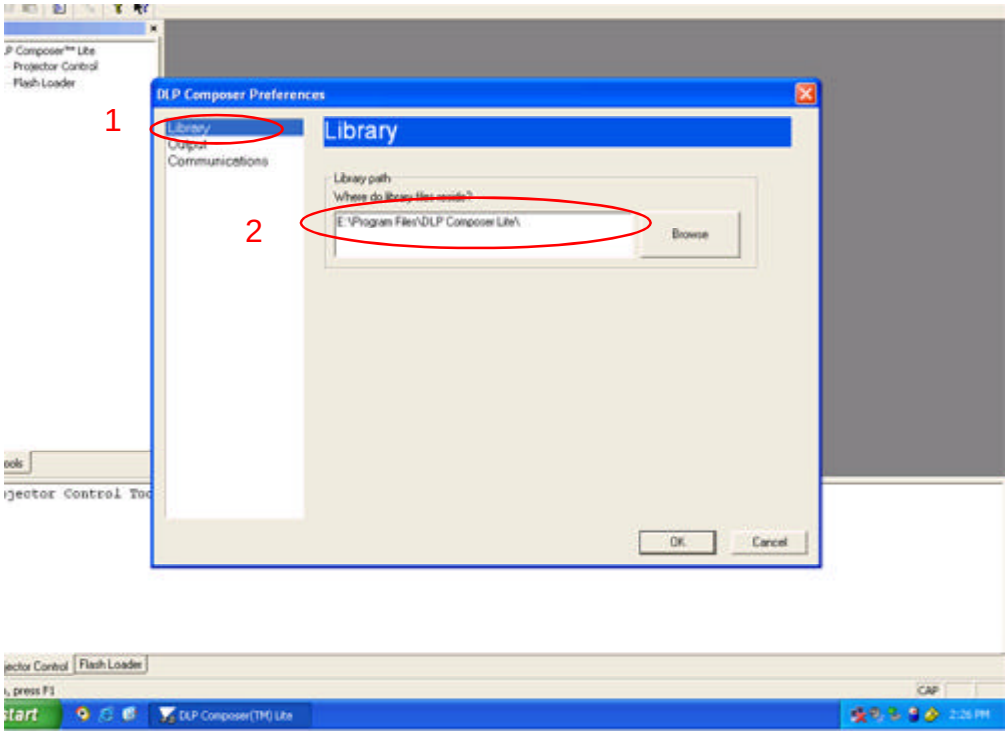
1. Press “Menu“ button on projector, and hold it and plug power code and keep to hold “Menu“ button till the “TEMP”, and “LAMP” LED light turn to red.
2. Execute the “DLP Composer™” file.



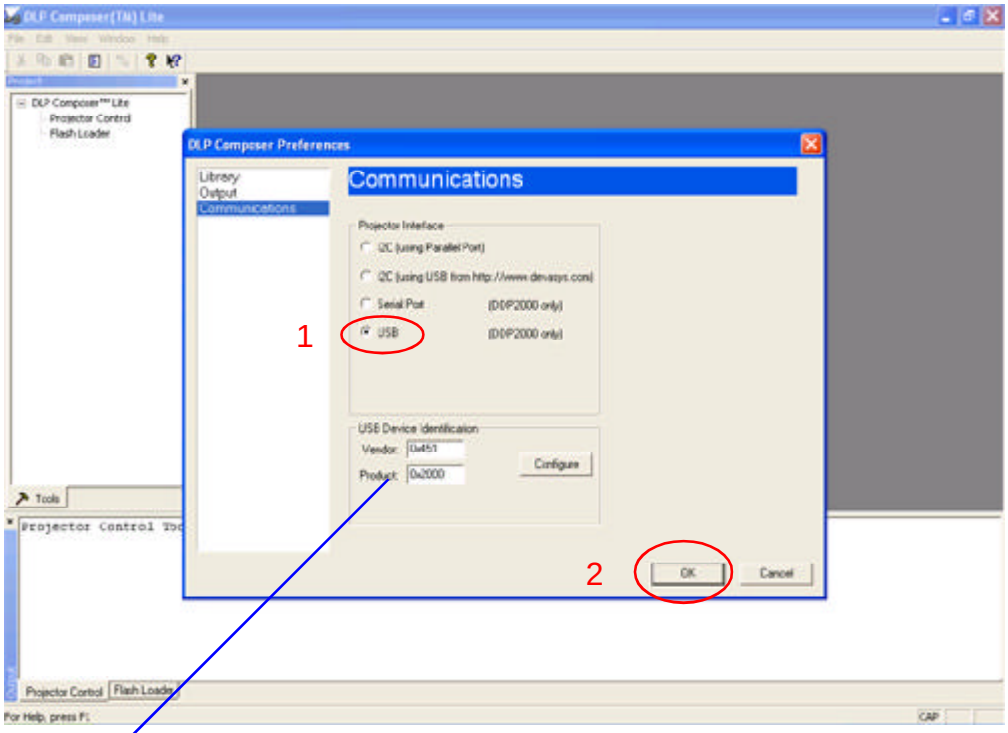
3. Click “Edit” and “Preferences”.



4. Click “Library”. The library path located to the default installation directory is : C:\Program Files\DLP Composer. If not then press “Browse” to select the right path.

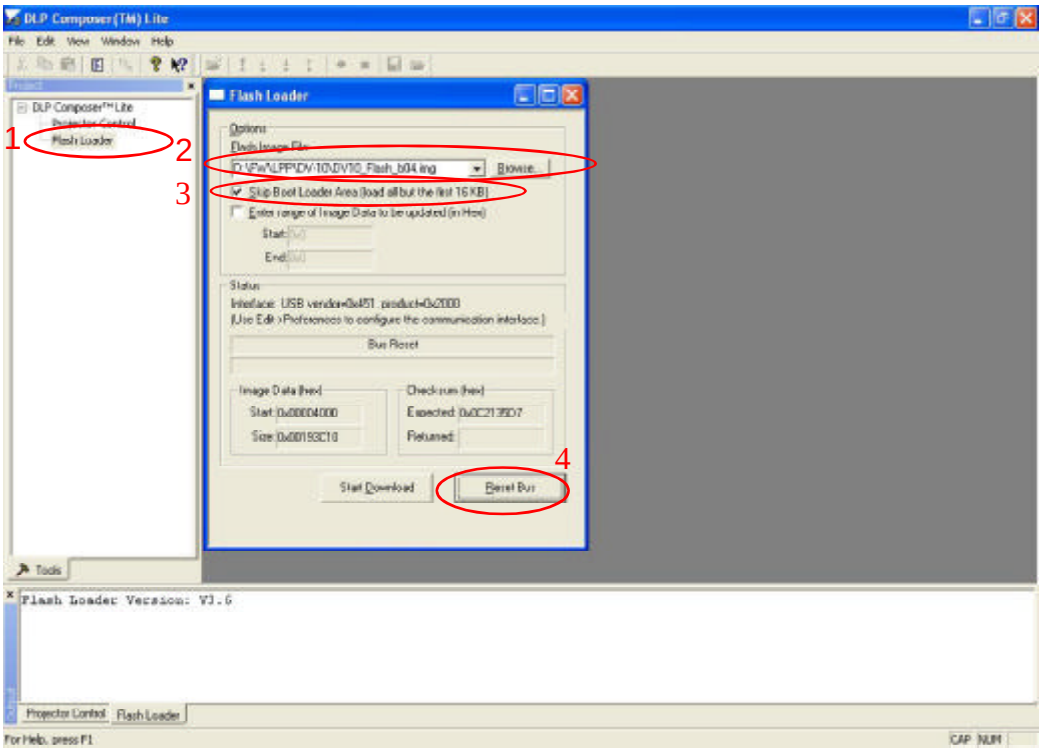


5. Select “Edit\Preferences\Communications”, choose “USB”, and then click “OK”.

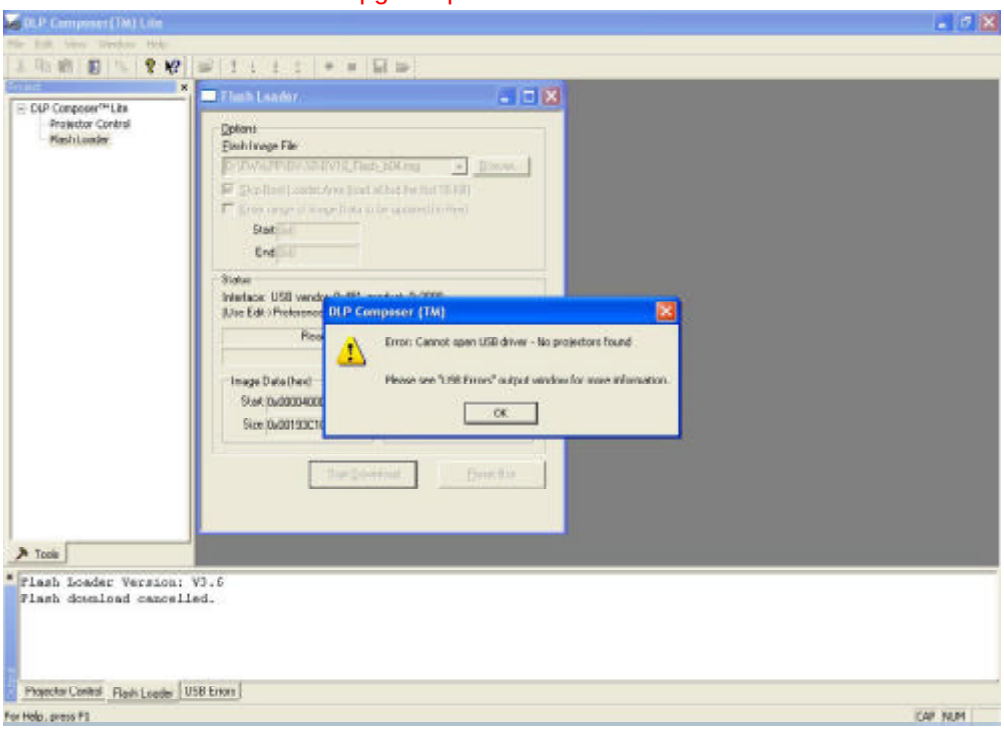


Note :
Vendor : 0x451
Product: 0x2000

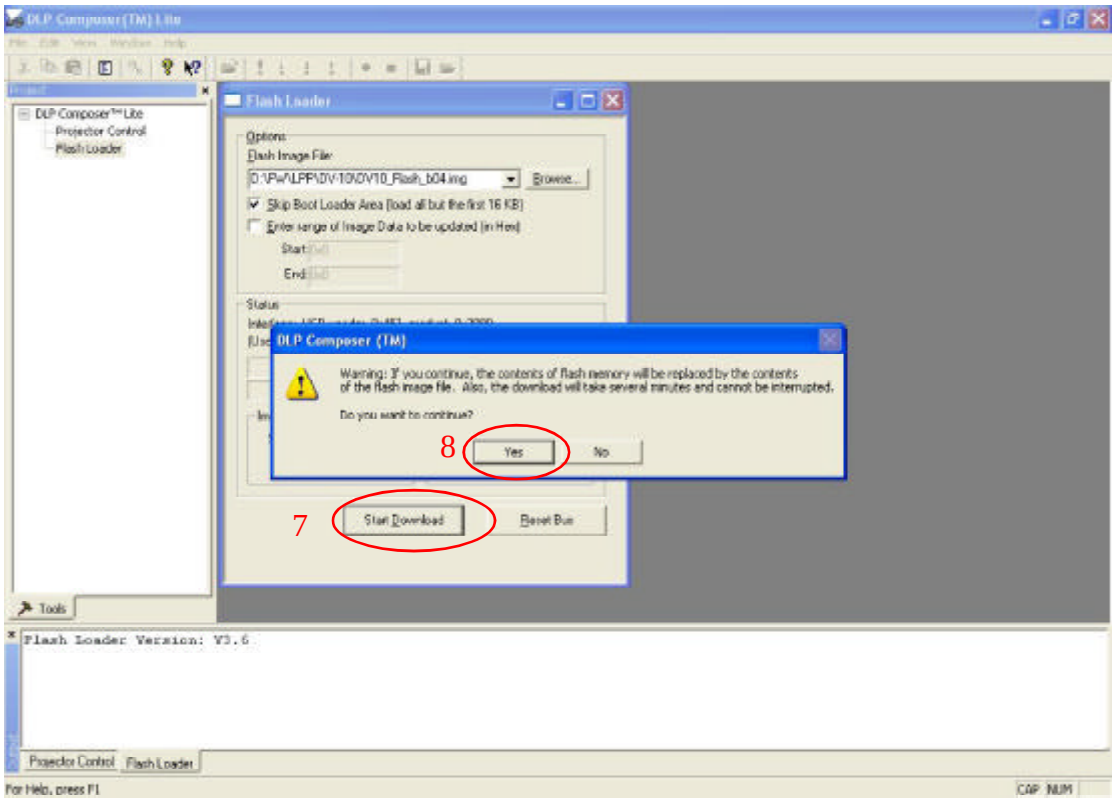
6. step (1) Choose “Flash Loader”
step (2) Click “Browse” to serach the “**DV10_Flash_b04.img**” file.
step (3) select the item “Skip Boot Loader Area(load all but the first 16KB)”.
step (4) Click “Reset Bus” to erase the flash memory

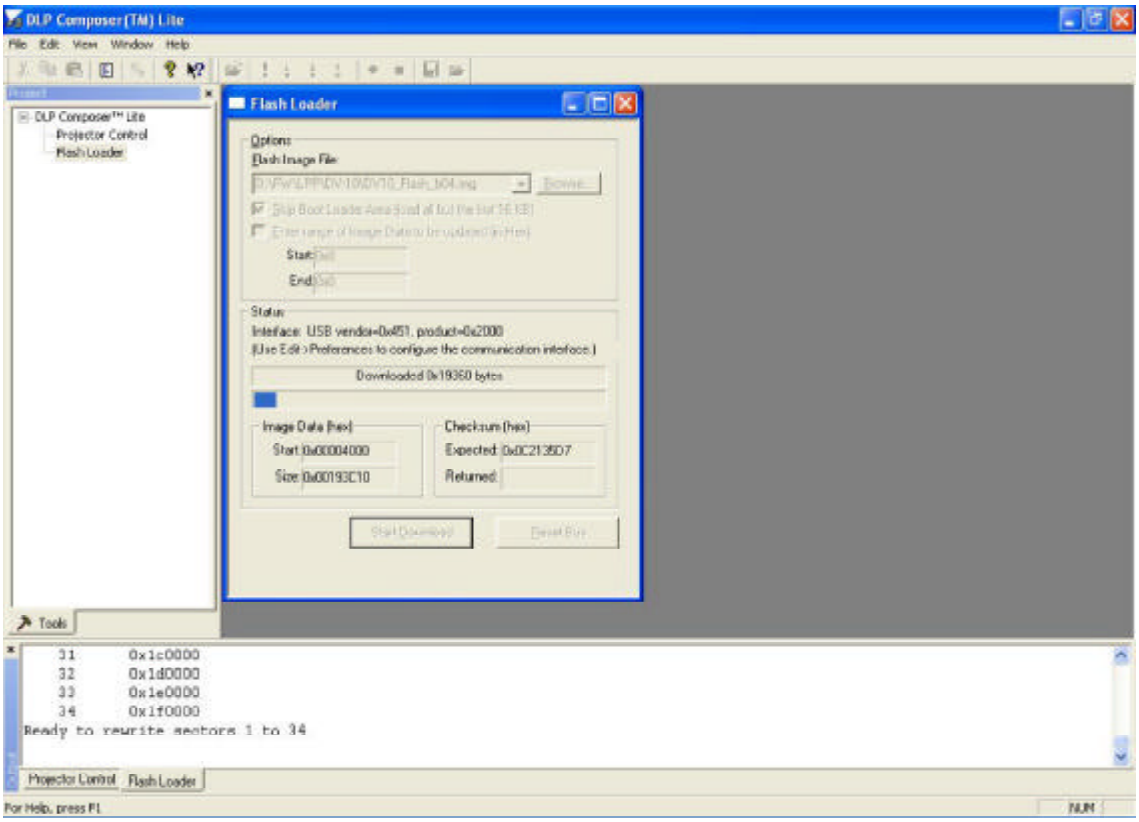


Note : If appears the error message “cannot open USB driver - No projectors found”. Please unplug the USB cable and replug, then do step (4) again. If it stiill fails, please restart PC and redo 5-3.2 USB driver upgrade procedure.

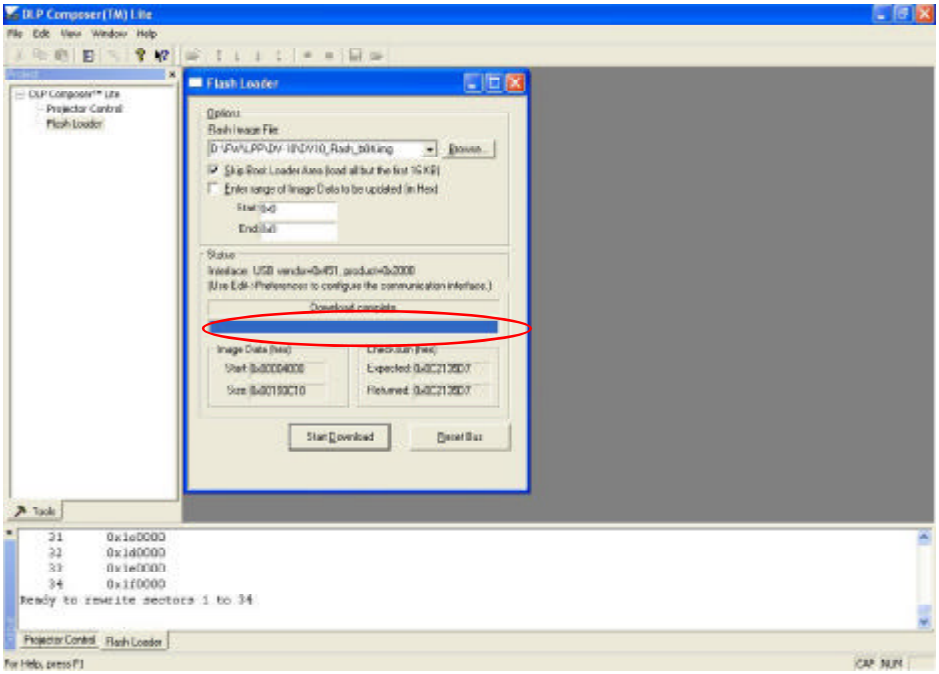


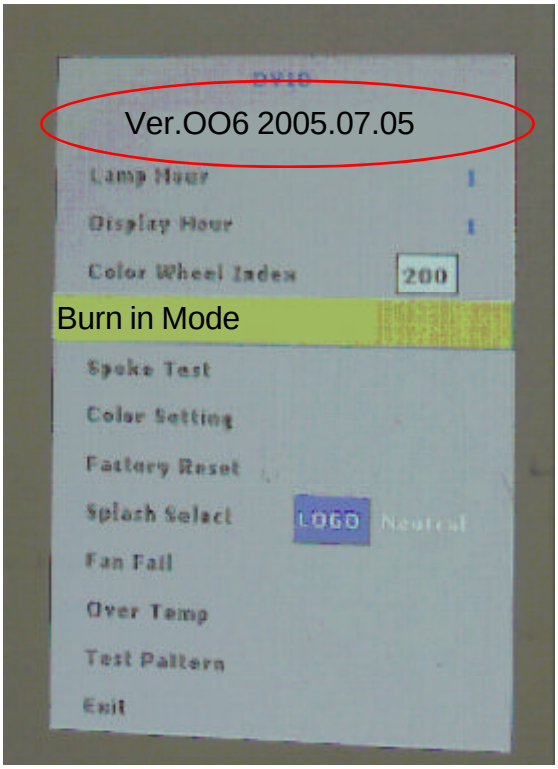
7. If the firmware is ready, then click “Start Download” to process the firmware upgrade.
8. Click “Yes” to erase the flash memory.





9. After file was download. DV-10 will be back to standby status automatically (Power LED flash blue). Please to restart the unit and enter the **Service mode** to check the F/W version of DV-10 . Note





Note : How to into Service Mode:

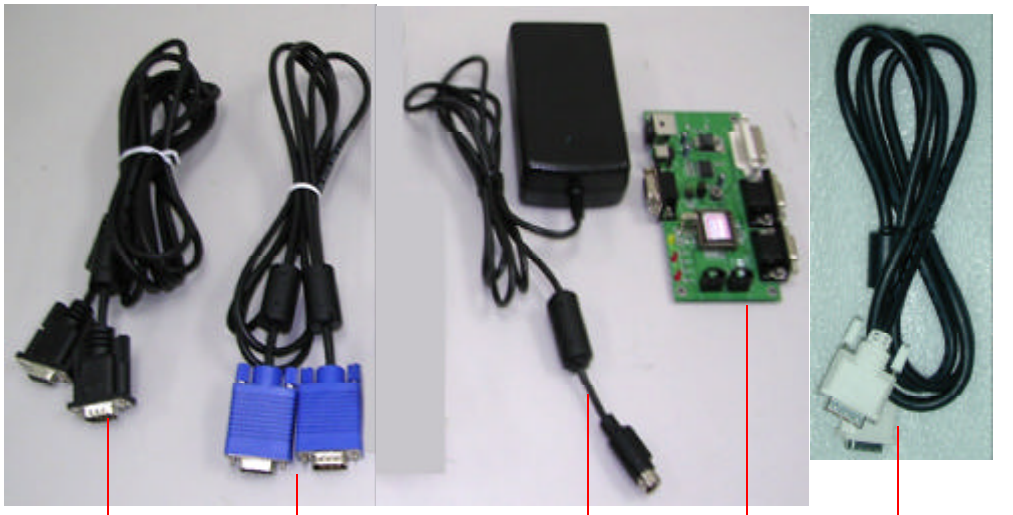
- Please do the following steps to enter service Mode.
  Turn on the power and wait for the disappearance of Logo picture.
- press “Power” button, “ ◀ (source) “, “ ◀ (source)“, “ ▲ ” button sequentially to enter Service Mode Menu.

Chapter 6

EDID Key-in Procedure

6-1 Equipment Needed

- PC or Laptop
- EDID Fixture
- Power Adapter
- RS-232 Cable (Female to Male)
- VGA Cable
- DVI Cable
- Power Cord
- DDC Driver
- DV-10 Unit



6-2 Setup Procedure

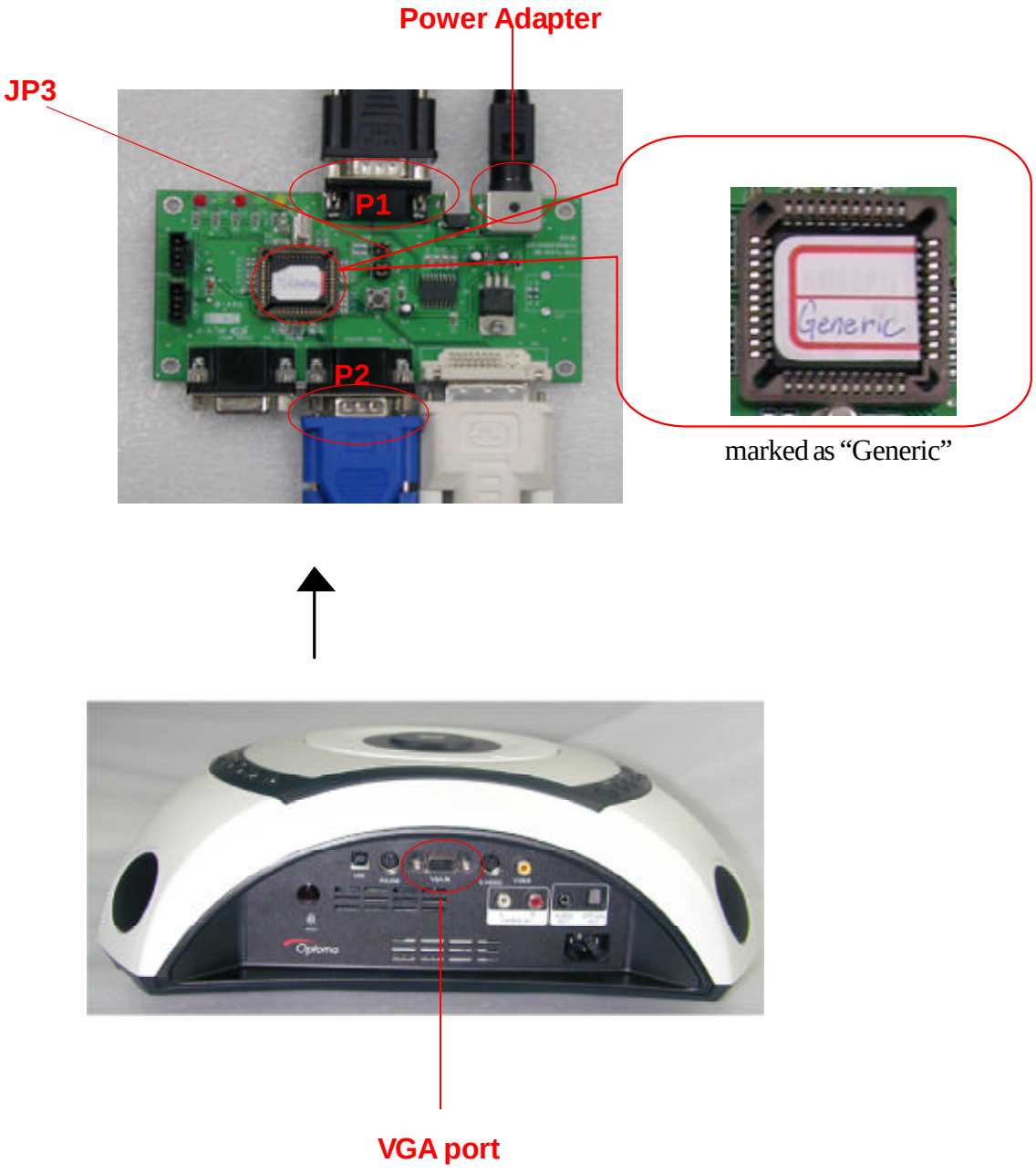
Step1. Connect Power Adapter with the fixture.

Step2. Connect P1 of the fixture with COM1 of PC/Laptop by RS232 cable.

Step3. Connect P2 of the fixture with VGA port of DV-10 by VGA cable.

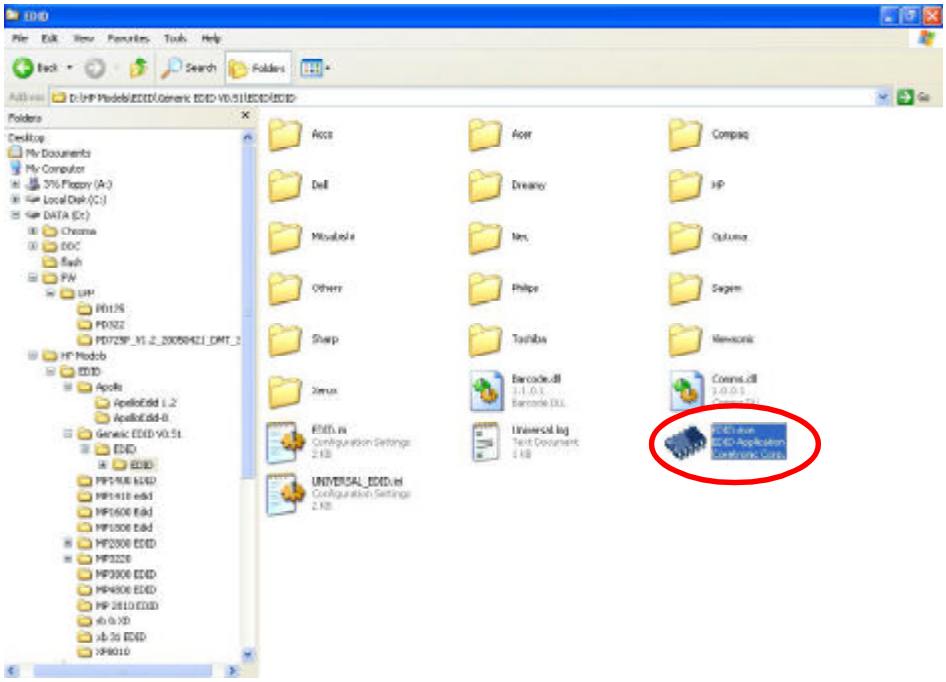
Step4. Plug Power Adapter to the fixture and connect the DV-10 Power Cord.

*Notice : Confirm JP3 is “Close” status.



6-3 DDC Key-in Procedure

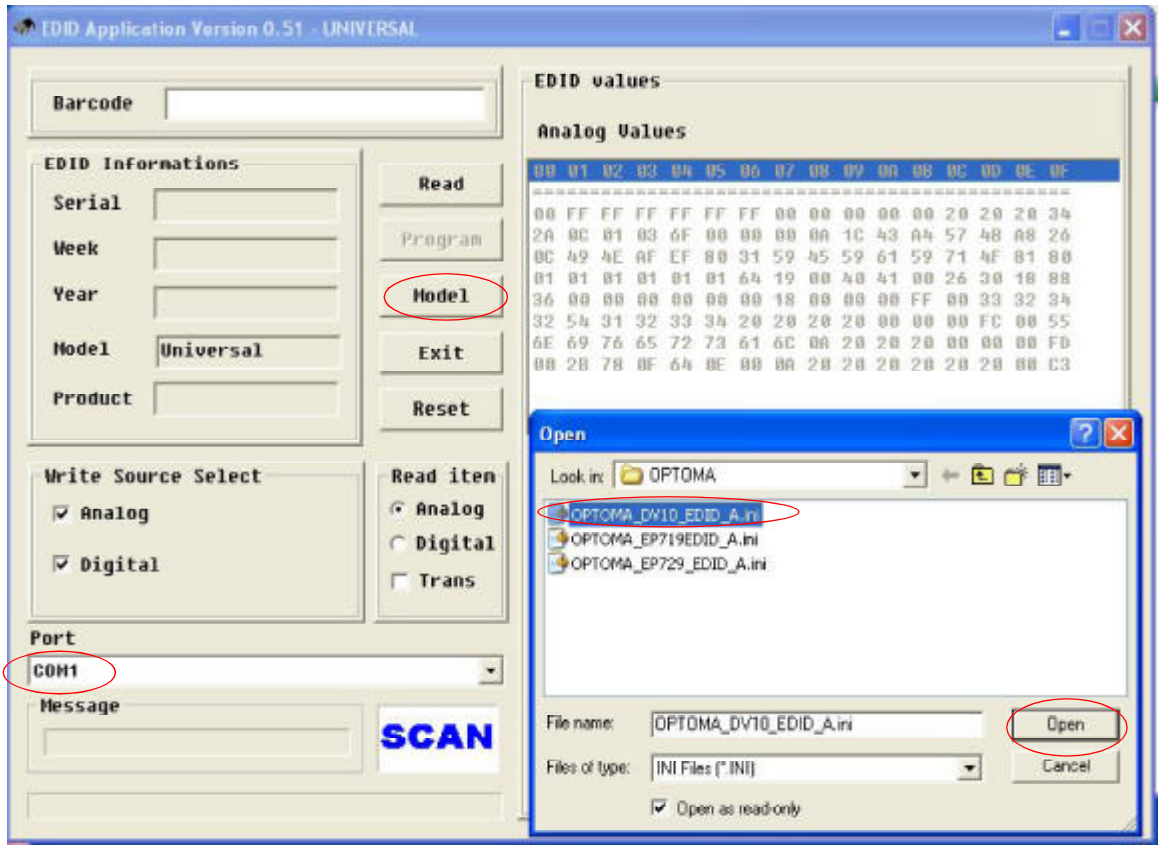
Step 1. Execute “EDID” program.



Step 2. (1) Check the Com port is “COM1”

(2) Click the “Model” item

(3) Choose the source file “OPTOMA_DV10_EDID_A.ini” and then open it.

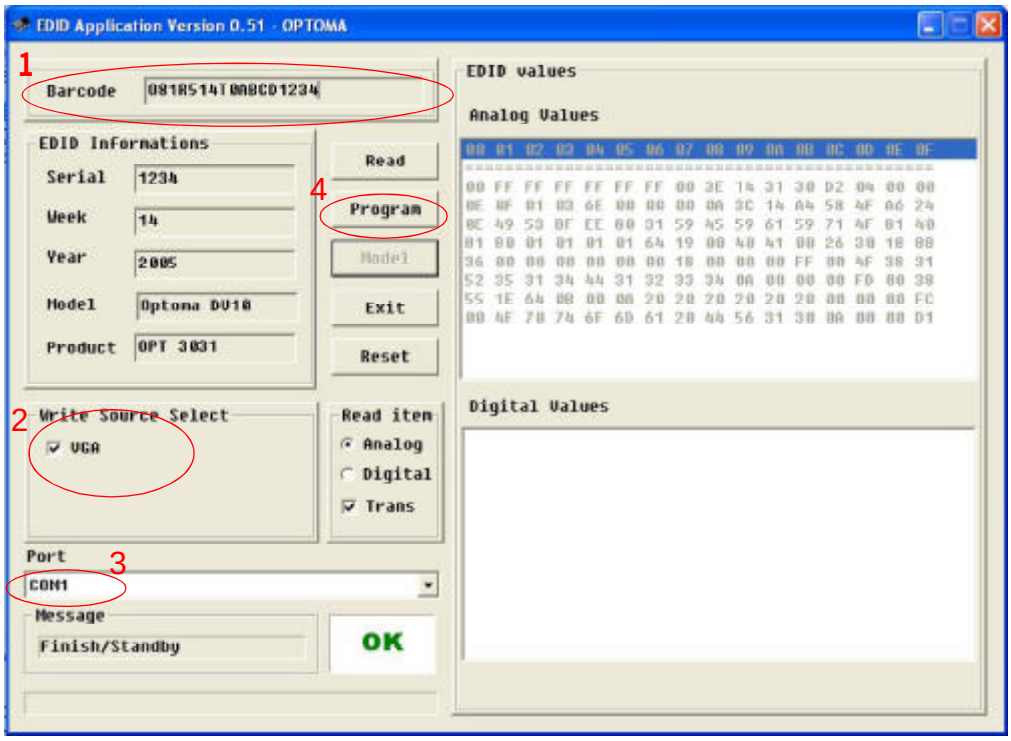


Step 3. (1) Key in the Serial Number into the blank space.

(2) In “Write Source Select” Item, select “VGA”.

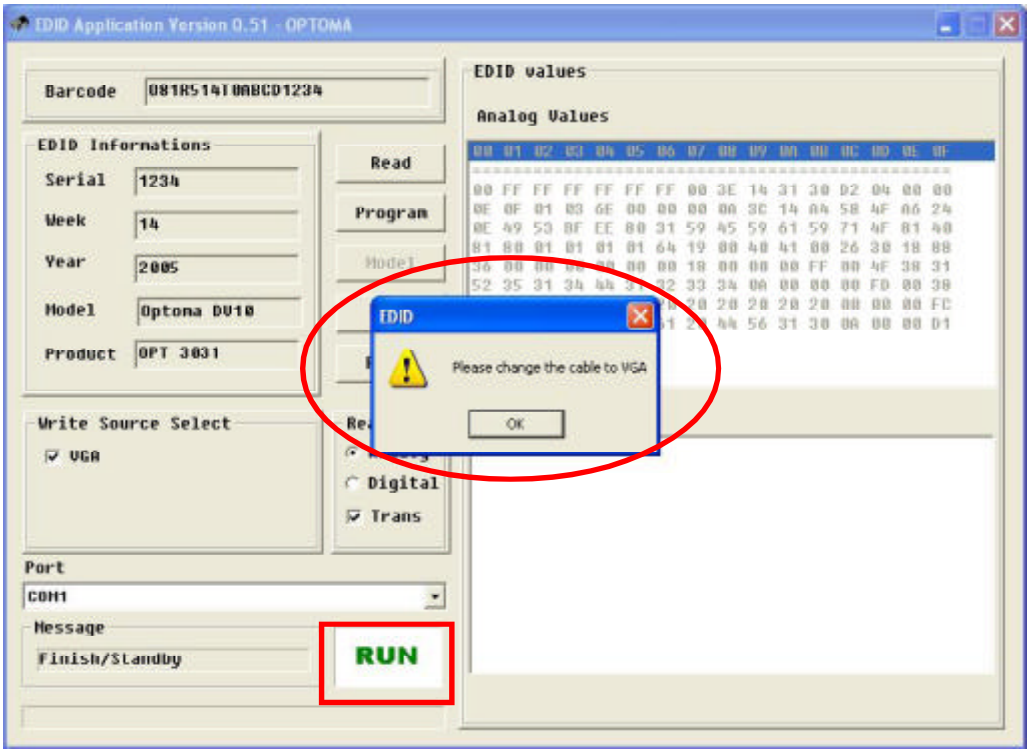
(3) Check the COM port is COM1

(4) Click “Program” button.

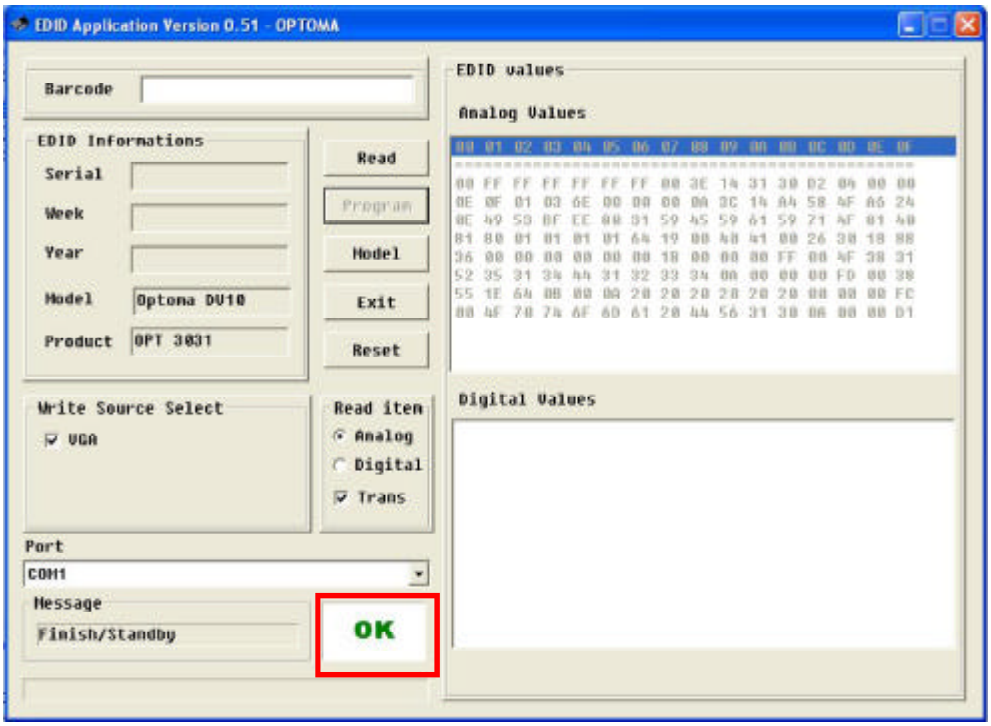


Step 4. “Please change the cable to VGA” message is shown on the screen, then click “OK” button.

Notice : “RUN” message will appear on the screen.



Step 5. When the DV-10 EDID program is finish, the “OK” message will appear on the screen.

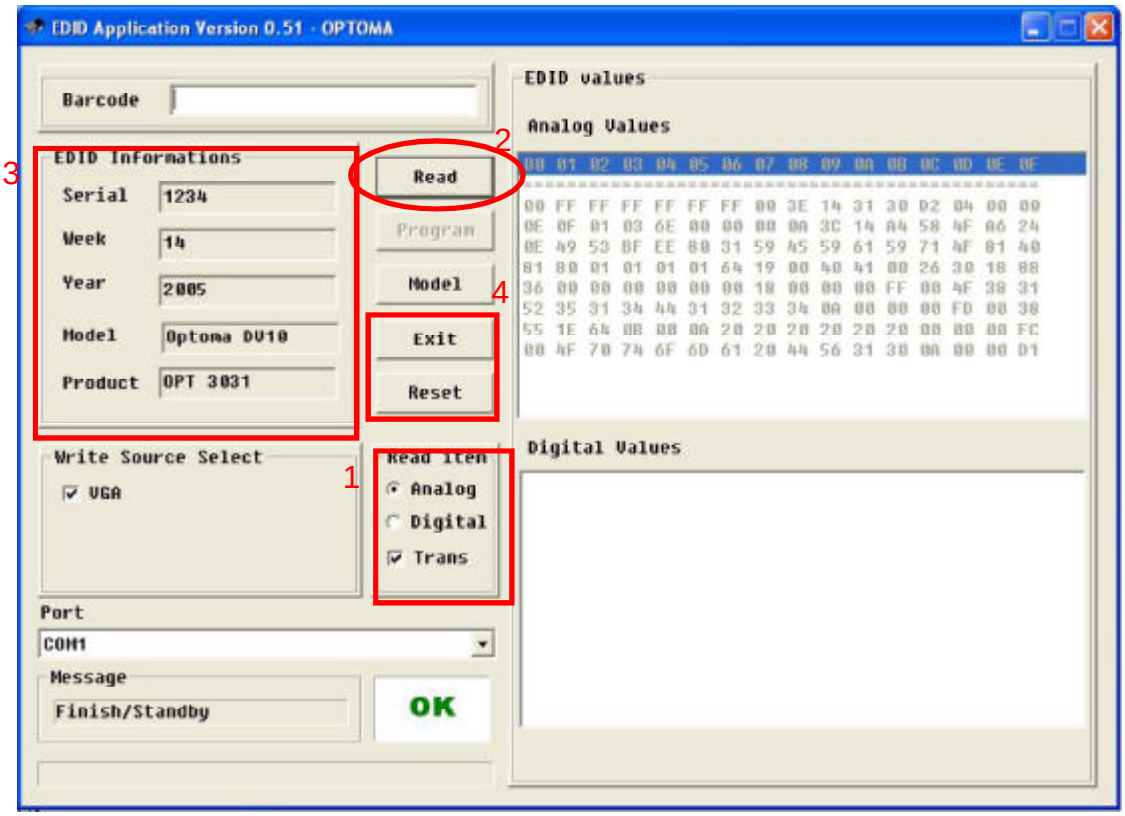


Step 6. (1) Make sure to check “Analog” and “Trans” in Read item

(2) press “Read” button.

(3) **EDID Informations** will show the result.

(4) Click “Reset” to do the next unit or “Exit” button to close the EDID program.



Chapter 7

DV-10 DVD Code Installation Procedure

7-1 DVD Region Code

1. Region 1 - America
2. Region 2 - Europe, England, Japan
3. Region 3 - ROW, Taiwan, Hong Kong
4. Region 4 - South America, Australia
5. Region 5 - Pan-EMEA, Indian
6. Region 6 - China

7-2 Setup Procedure

Step 1. Turn on DV -10 unit and wait till the following image shows.

Note: signal source is from DVD loader.

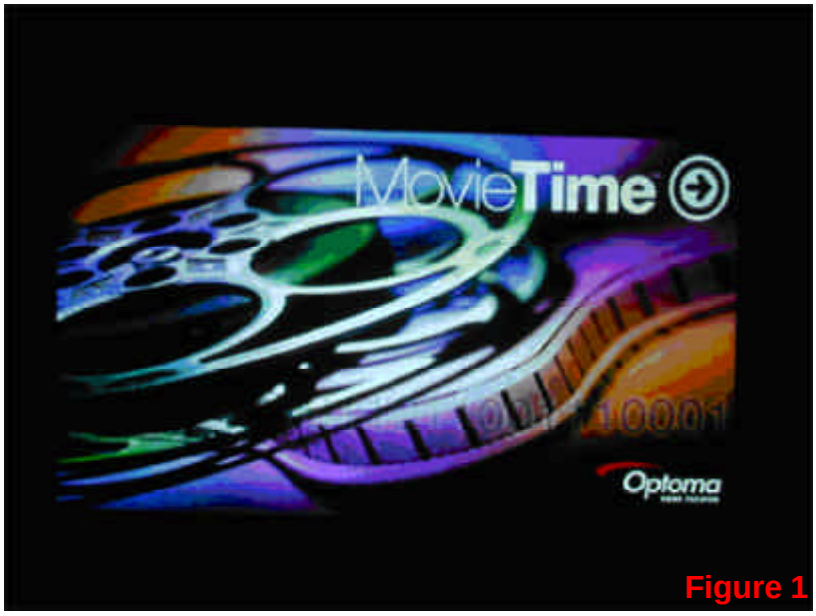


Figure 1

Step 2. Put the “DVD code” CD in the DVD loader.

Step 3. The CD will be running automtically and press “Play” to install the DVD code.

Note : If you don’t have the CD, please do the following steps. (1) A CR-RW Burner to make CD is needed. (2) Make sure that file name in the CD must be dvdrom.bin.

Figure 2

Figure 3

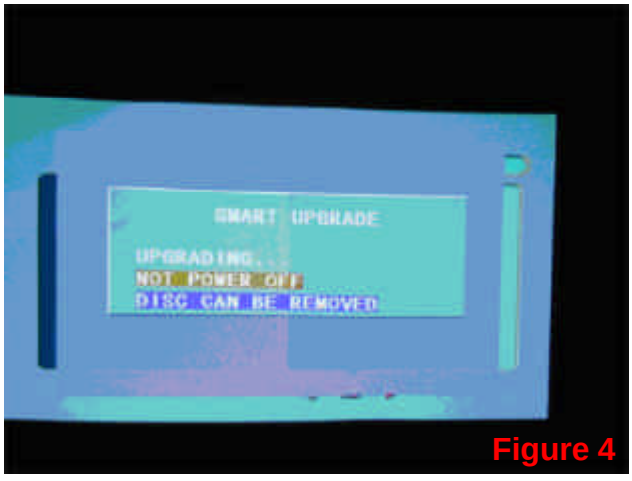


Figure 4

Step 4. Please wait till the installation process finishes and open DVD Cover to take out the CD.

Note : When the circle is finished, the image will return to Figure 1. If the cover cannot be opened promptly, the image will go to Figure 3 again. If so, please do DVD code installation procedure again and do open the cover promptly when the image returns to Figure 1.

Step 5. Press 1,2,3 and 4 on the remote control to check if the DVD code is correct or not.

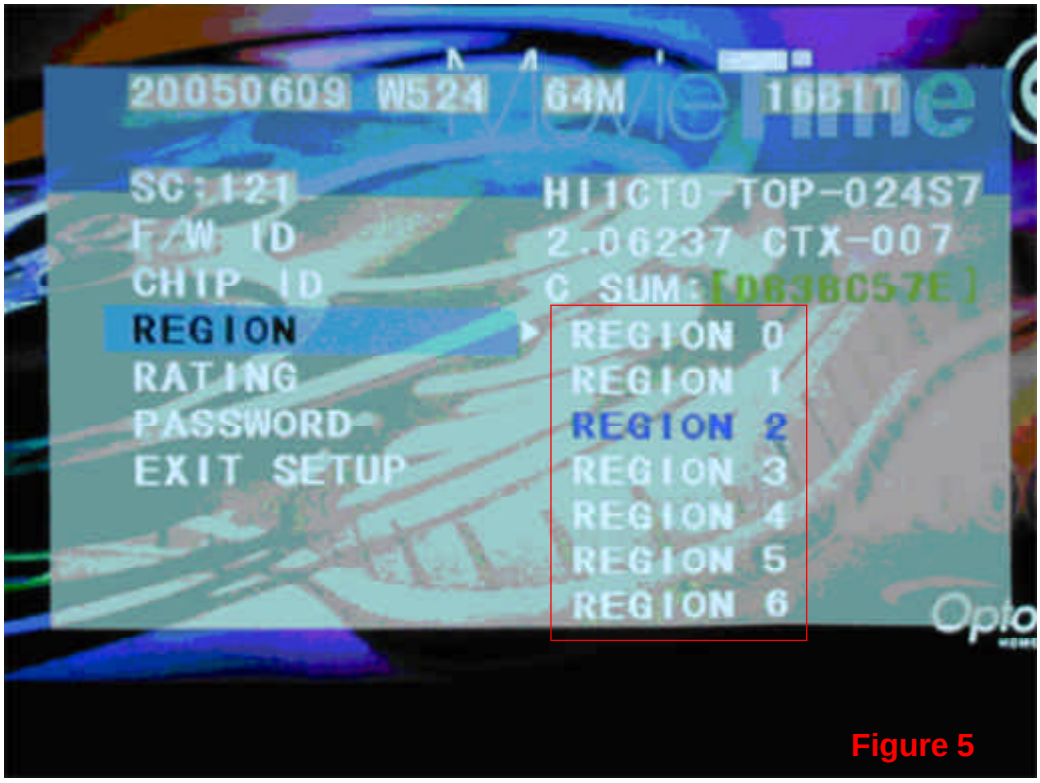
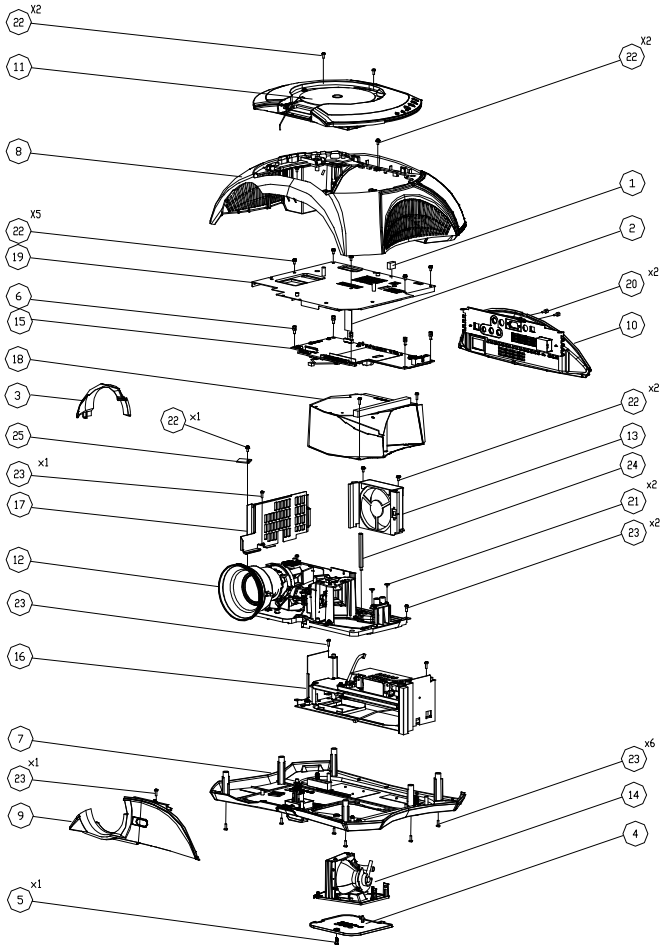


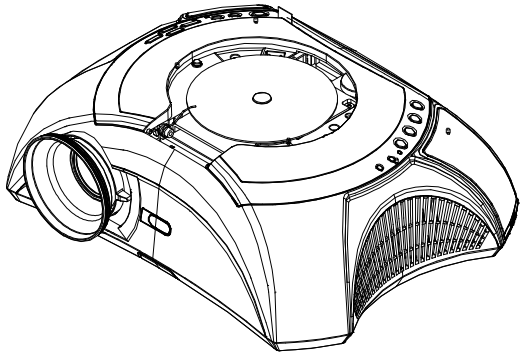
Figure 5

Appendix A

Exploded Overview

I. DV-10 Unit

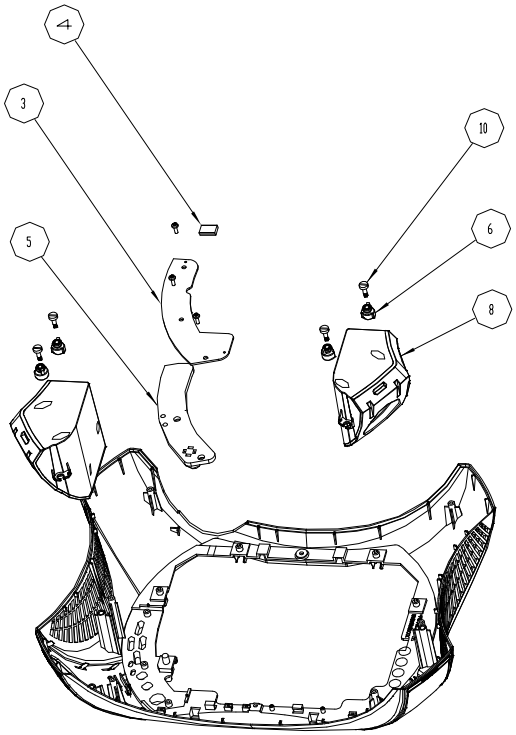


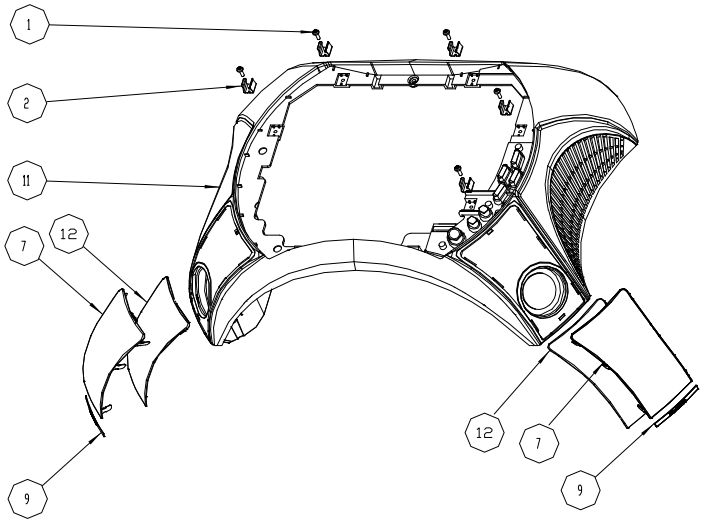


Exploded Parts List

Item	P/N	Description
1	41.81R07G001	EMI GASKET CONDUCTIVE SPONGE 12.0(t)*10.0(w)*6.0(l) DV10 "GREEN"
2	42.81R15G001	FFC CABLE 14PIN PITCH 1.0mm 100mm DV10
3	51.81R06G001	FRONT SIDE PANEL PC+ABS, GE C6200 DV10 "GREEN"
4	51.81R12G001	LAMP COVER PC+ABS C6200 DV10 "GREEN"
5	61.00018G002	LOCK SCREW PAN MECH M3*8.5-3.5 BLACK "GREEN"
6	61.00073G001	HEX SCREW L=6mm M3*M3 CU DV-10 "GREEN"
7	75.81R15G001	BUY ASSY BOTTOM COVER MODULE DV10 "GREEN"
8	70.81R07G001	ASSY TOP COVER MODULE DV10 "GREEN"
9	70.81R08G001	ASSY FRONT COVER MODULE DV10 "GREEN"
10	70.81R09G001	ASSY REAR COVER MODULE DV10 "GREEN"
11	70.81R10G001	ASSY DVD MODULE DV10 "GREEN"
12	70.81R13G001	ASSY ENGINE & BOTTOM BASE MODULE DV10 "GREEN"
13	70.81R14G001	ASSY AXIAL FAN MODULE DV10 "GREEN"
14	70.81R16G001	ASSY LAMP MODULE DV10 "GREEN"
15	70.81R17G001	ASSY PCBA MAIN MODULE DV10 "GREEN"
16	70.81R18G001	ASSY POWER MODULE DV10 "GREEN"
17	75.81R18G001	BUY ASSY SIDE SHIELDING MODULE DV10
18	75.81R05G001	DUCT ASSY AL 5052 t=0.5 & STEEL HS DV10 "GREEN"
19	75.81R16G001	BUY ASSY TOP FRAME MODULE DV10 "GREEN"
20	85.005AG.408	SCREW HEX I/O #4-40*H4*L8 Ni NYLOK
21	85.3A122.040	SCREW CAP MECH M2*4 Ni
22	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
23	85.WA123.080	SCREW PAN TAP M3*8 Ni
24	61.88511.001	HEX SPACER M3 H=52mm L=4mm AL 2200MP
25	80.81R11G001	PCBA THERMAL SENSOR BD ID:90 DV10

II. Top Cover Module

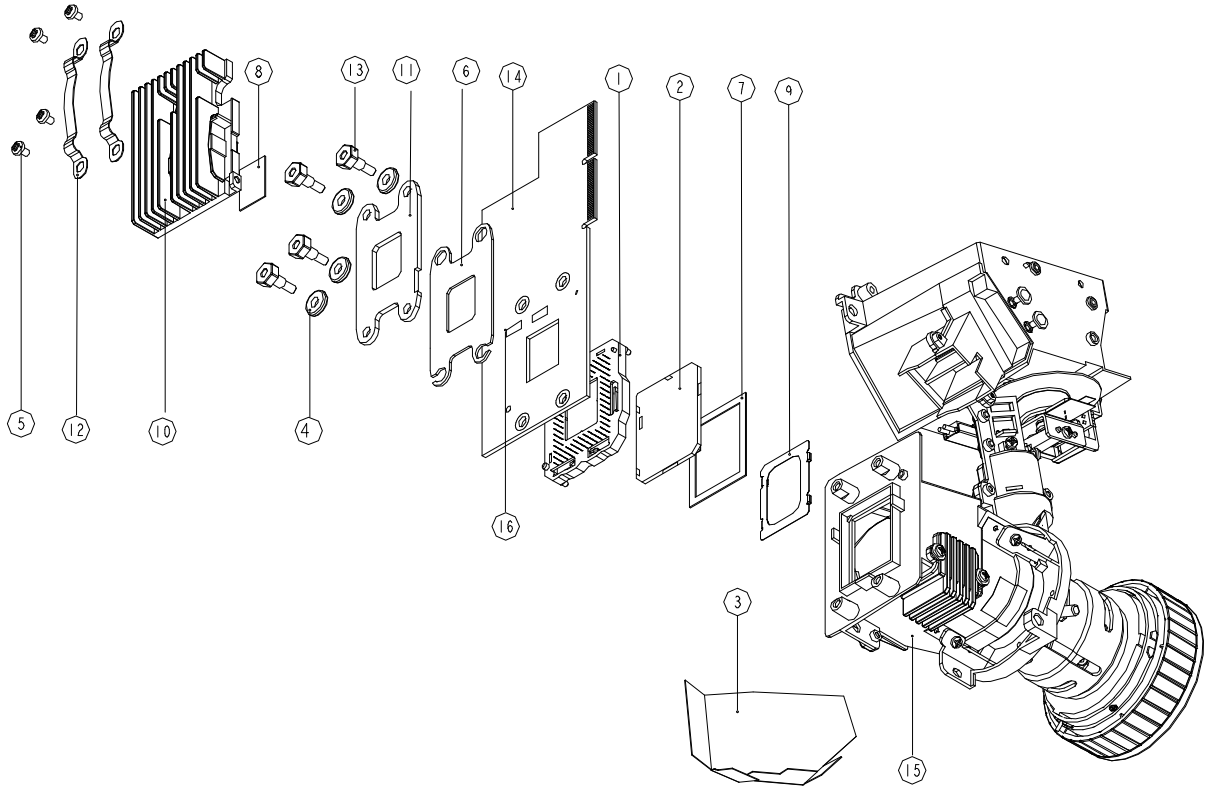




Exploded Parts List

Item	P/N	Description
1	85.WA123.080	Screw Pan Tap M3x8
2	61.81R25G001	DVD UP COVER LOCK SUS 301 DV-10 "GREEN"
3	80.81R06G001	PCBA PROJECTOR KEYPAD BD FOR DV10 "GREEN"
4	41.81R10G001	EMI GASKET CONDUCTIVE SPONGE 4.0(t)* 10.0(w)*17.0(l) DV10
5	52.81R04G001	SPEAKER DAMPER SILICON RUBBER DV-10 "GREEN"
6	52.81R08G001	SPEAKER DAMPER SILICON RUBBER DV-10 "GREEN"
7	61.81R28G001	SPEAKER MESH-2 IRON t=0.5, (p0.8mm,P1.2mm) DV10 "GREEN"
8	75.81R13G002	ASSY SPEAKER BOX (RIGHT+LEFT) PC+ABS C6200 DV10 "GREEN"
9	35.81R02G001	SPEAKER NAME PLATE DV10 "GREEN"
10	61.81R21G001	SPEAKER STEP SCREW M2*6 STEEL & HS DV10 "GREEN"
11	51.81R01G001	TOP COVER PC TEIJIN MN-3600HC DV10
12	51.81R38G001	SPEAKER COSMETIC MYLAR DV10

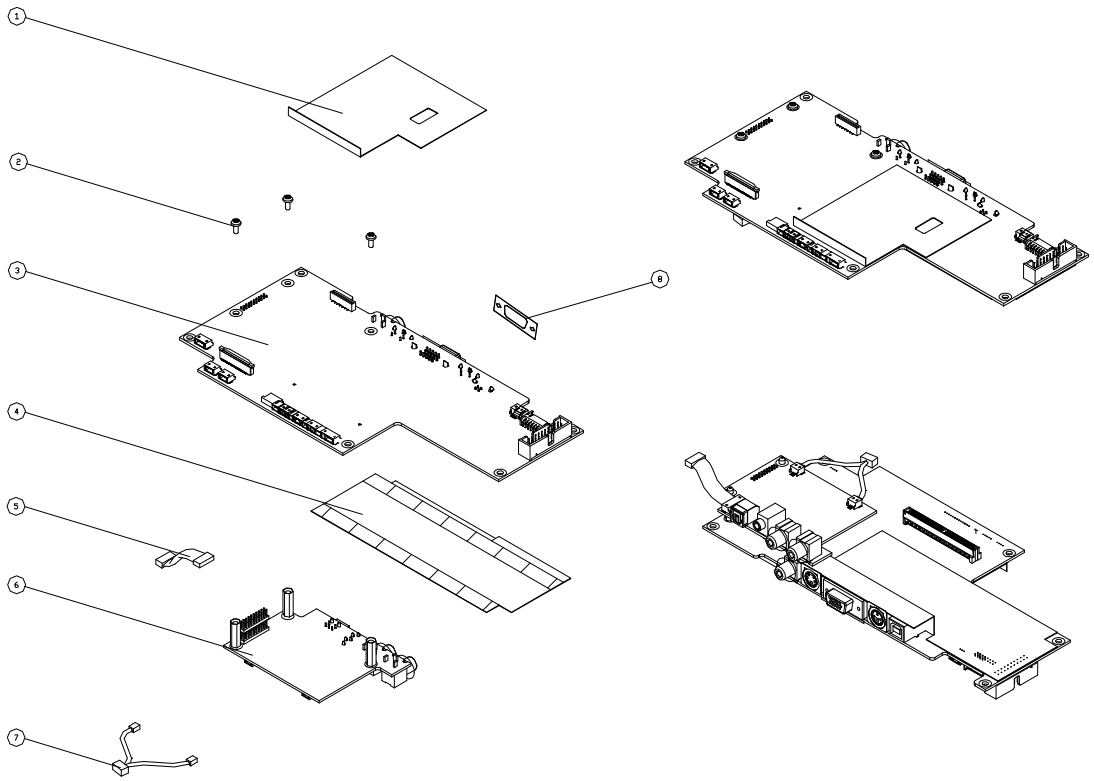
III. Engine Module



Exploded Parts List

Item	P/N	Description
1	11.009F0G.001	CNNT F 166P FOR 0.55" SVGA LGA D
2	48.81GDMG002	DMD 854*480 PIXEL 0.5" 480P DDR WITH APERTURE
3	51.80W33G001	ENGINE BOTTOM MIRROR 1 TAPE 3M-J350
4	52.87130G.001	RUBBER BLOWER 595925 "GREEN"
5	85.1A523G040	SCREW PAN MECH M3*4 NYLOK
6	51.80B31G.001	DMD INSULATOR MYLAR 0.8+3300MP
7	50.80J01G.001	DMD ANTIDUST RUBBER 739 SILICONE
8	52.87319G.001	DMD THERMAL PAD 18*13*0.5T "GREEN"
9	61.80J10G.001	DMD LIGHT MASK 739 SUS301" GREEN
10	61.80J41.001	DMD HEAT SINK AL1070 VULCAN-1
11	61.80J48G001	DMD HEATSINK BACKER PLATE 739 AL6061
12	61.88608G.001	DMD HEATSINK SPRING PLATE SUS301
13	61.88611G.001	DMD SCREW IVYOX "GREEN"
14	80.80N02G.001	PCBA SMS BD FOR EP739
15	70.81R02G001	ASSY SUB ENGINE MODULE D10 "GREEN"
16	51.80W44G001	8*10*0.5t MYLAR FOR 2300MP "GREEN"

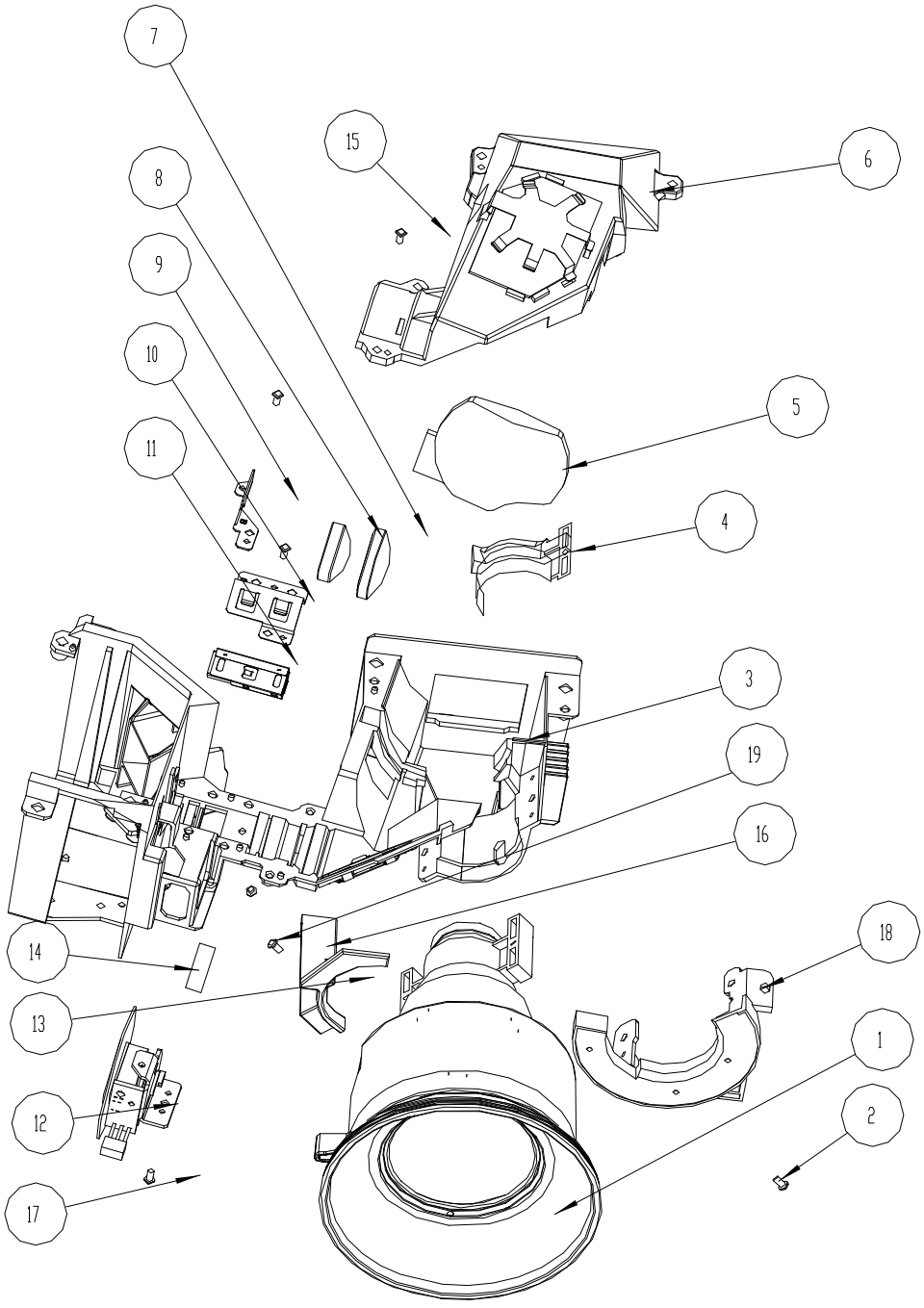
IV. Main Board



Exploded Parts List

Item	P/N	Description
1	51.81R30G001	MAIN BOARD TOP MYLAR ERPP 0.43t DV10 "GREEN"
2	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
3	80.81R02G001	PCBA MAIN BD DV10 "GREEN"
4	51.81R15G001	M/B MYLAR FRPP DV10 "GREEN"
5	42.81R02G002	W.A. 7P #28 150mm UL1007 M/B TO DVD BD DV10 "GREEN"
6	80.81R07G002	PCBA AUDIO BD FOR DV10 "GREEN"
7	42.81R06G001	SPEAKER EXTENTION CABLE RIGHT 135mm (RED) DV10 "GREEN"
8	41.81R08G001	EMI GASKET TAPE t=0.25mm DV10

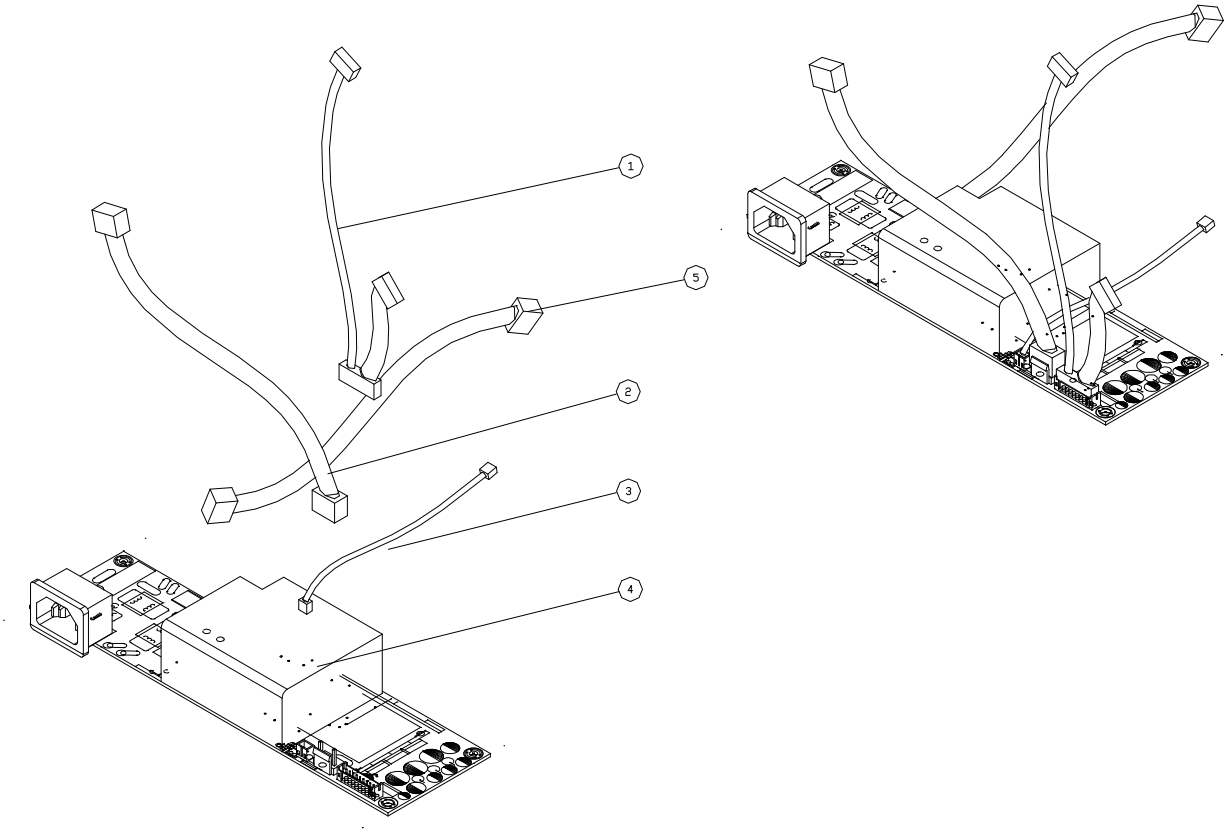
V. Sub Engine Module



Exploded Parts List

Item	P/N	Description
1	70.81R03G001	ASSY OPTICAL LENS MODULE DV10 "GREEN"
2	85.1A326.060	SCREW PAN HEAD MECH M2.6*6 BLACK
3	70.81R21G001	PRE ASSY ENGINE BASE MODULE DV10 "GREEN"
4	52.81R12G001	RELAY ANTIDUST YM08 739 SILICONE RUBBER "GREEN"
5	23.80J06G001	RELAY LENS 1 "GREEN"
6	70.80N19.001	PRE ASSY ENGINE BOTTOM MODULE EP739
7	23.80J20G001	CONDENSER LENS2 "GREEN"
8	23.80J20G011	CONDENSER LENS 3 "GREEN"
9	61.81H06G001	ROD COVER 480P 739 SUS301 0.5t "GREEN"
10	61.80J05G002	ROD SPRING 739 SUS301 0.25t "GREEN"
11	70.81R05G001	ASSY ROD MODULE DV10 "GREEN"
12	70.81R04G001	ASSY COLOR WHEEL MODULE DV10 "GREEN"
13	52.80J03G001	LENS ANTIDUST 739 SILICONE RUBBER "GREEN"
14	52.81R18G001	PORON ENGINE TO DUCT DV10
15	85.1A526.060	SCREW PAN MECH M2.6*6 Ni NYLOK
16	85.1A626G040	SCREW PAN MECH M2.6*4 BLACK NYLOK "GREEN"
17	85.1F126G060	SCREW PAN MECH W/SF M2.6*6 Ni "GREEN"
18	75.80W15.004	BUY ASSY ZOOM RING STOP MDULE 2300MP
19	85.3A126.040	SCREW CAP HEAT D7.0 MECH M2.6*4 Ni

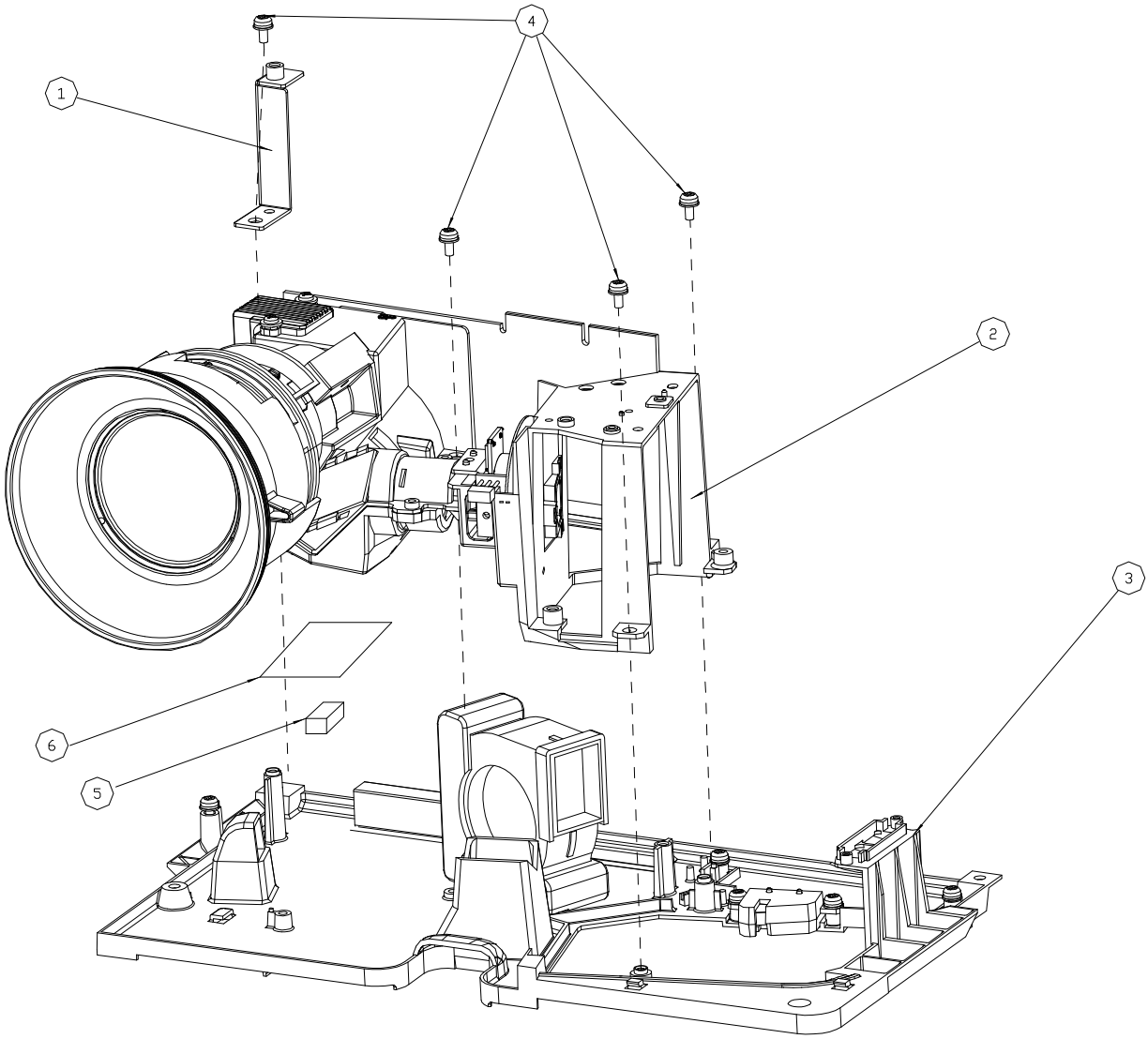
VI. Lamp Driver Module



Exploded Parts List

Item	P/N	Description
1	42.81R01G001	W.A. 20P #24 200mm UL1007 LVPS TO DVD/B 6P MAIN/B 16P Y CABEL DV10 "GREEN"
2	42.81R09G001	W.A. 2P #20 200mm LVPS/BALLAST DV10 "GREEN"
3	42.81R13G001	W.A. #28 2P LIMITE SWITCH EXTENTION CABLE 140mm DV10 "GREEN"
4	75.81R01.001	ASSY QUASAR LVPS DV10
5	43.80S01G001	KLIXON YS11 THERMAL SWITCH,WIRE LENGTH:2205mm,125C

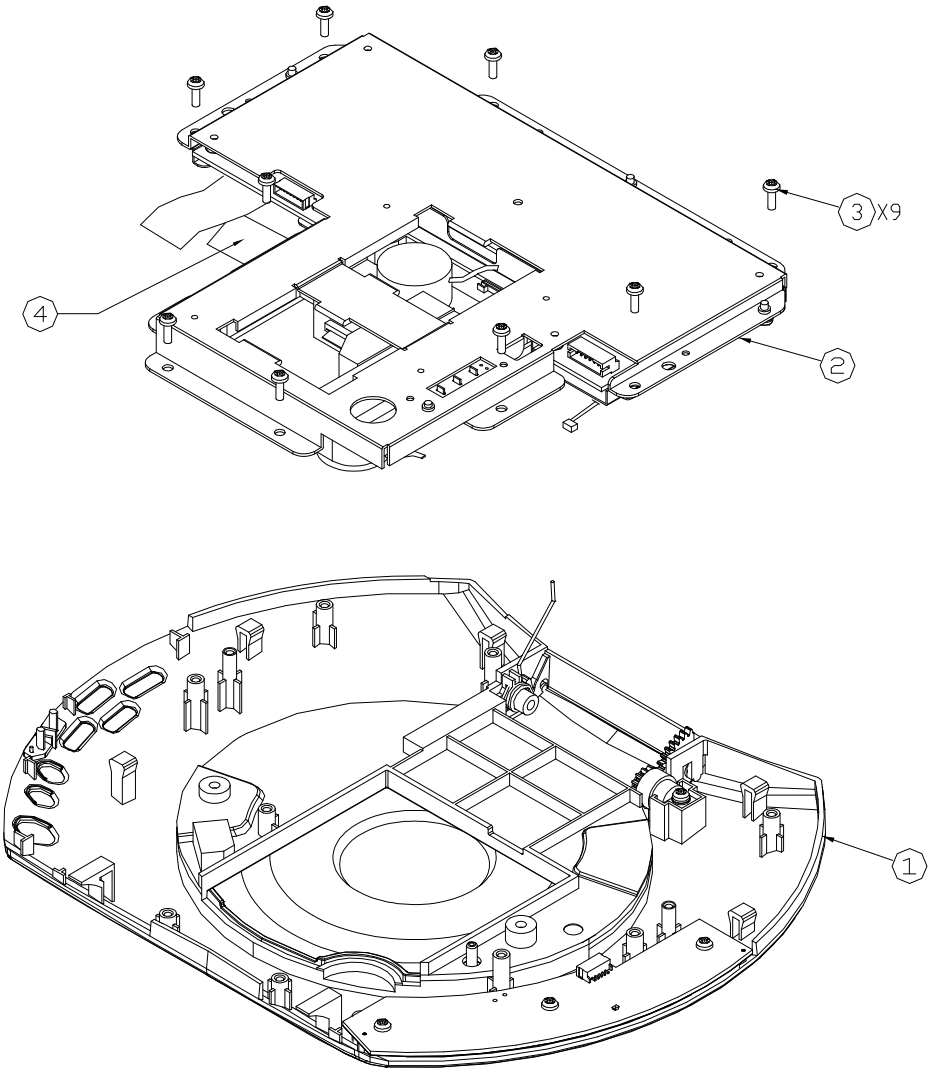
VII. Engine and Buttom Base Module



Exploded Parts List

Item	P/N	Description
1	61.81R06G001	M/B STAND BRACKET AL 5052 t=1.0
2	70.81R01G001	ASSY ENGIVE MODULE DV10 "GREEN"
3	70.81R15G001	ASSY BOTTOM BASE MODULE DV10 "GREEN"
4	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
5	41.81R10G001	EMI GASKET CONDUCTIVE SPONGE 4.0(t)*10.0(w)*17.0(l)
6	41.81U02G001	EMI TAPE W40*L40mm "GREEN"

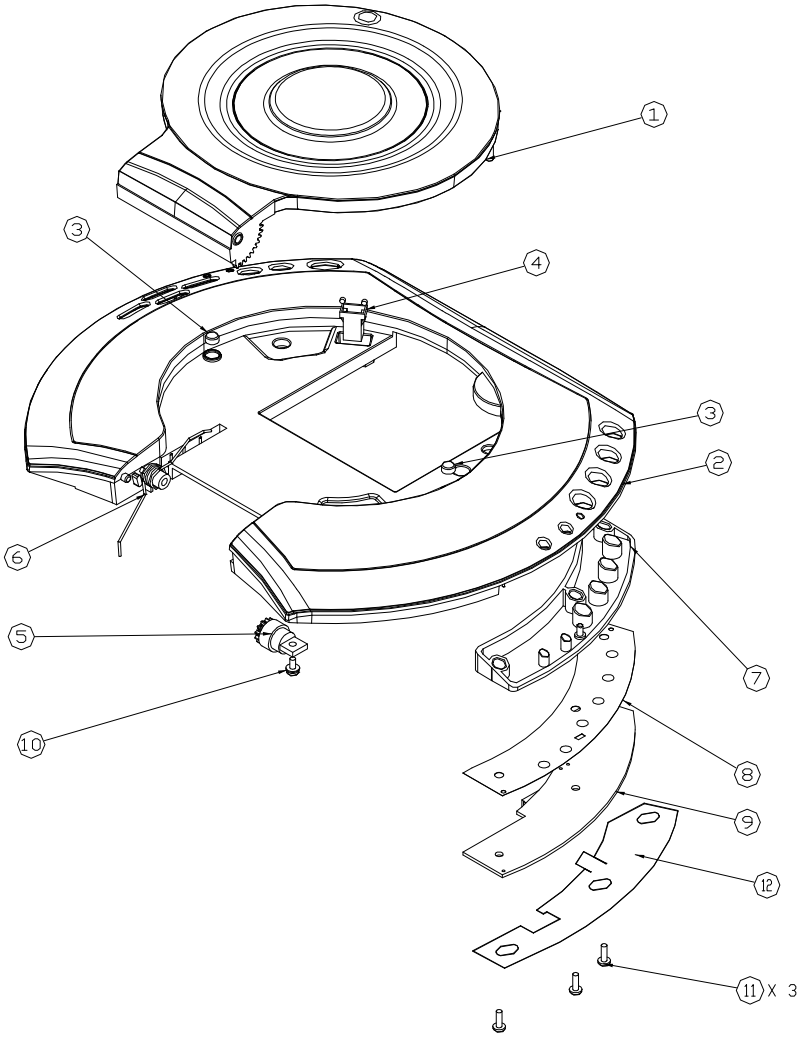
VIII. DVD Module



Exploded Parts List

Item	P/N	Description
1	70.81R11G001	ASSY DVD COVER MODULE DV10 "GREEN"
2	70.81R12G001	ASSY DVD LOADER MODULE DV10 "GREEN"
3	85.WA123.080	SCREW PAN TAP M3*8
4	SCREW PAN TAP M3*8	TAPE 3M J350 17*60mm

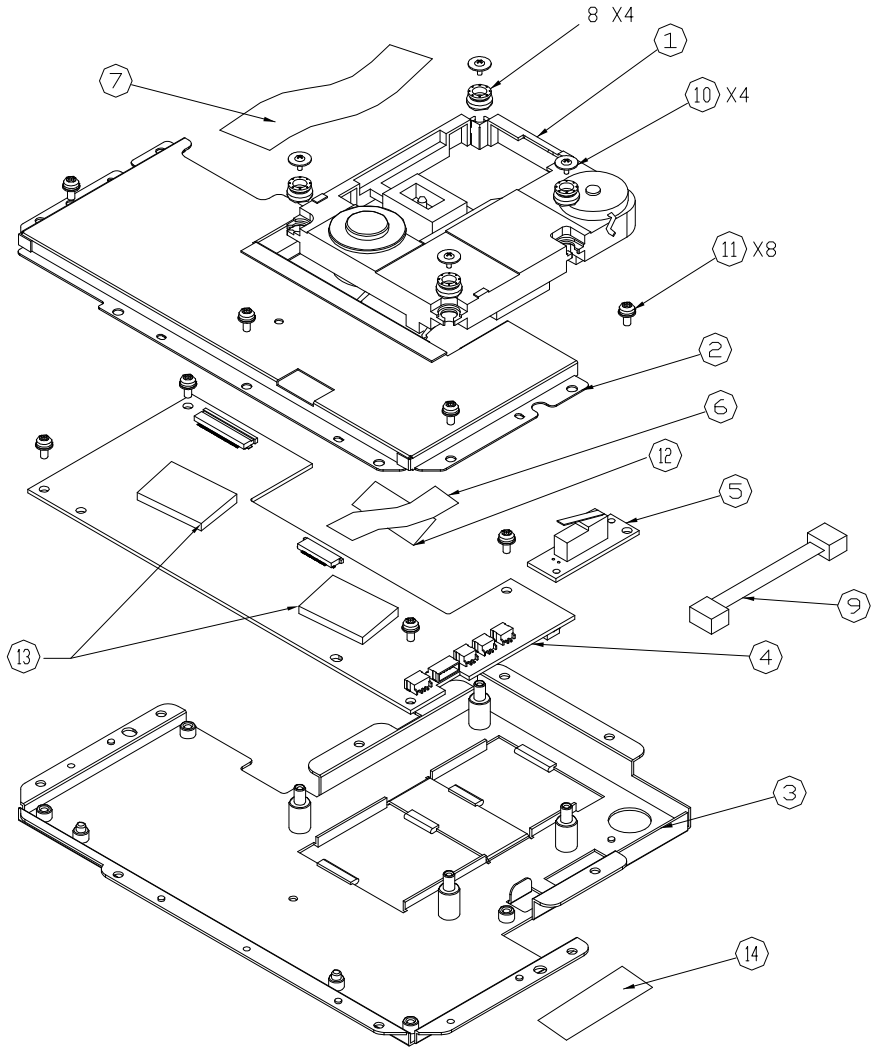
VIIII. DVD Cover Module



Exploded Parts List

Item	P/N	Description
1	51.81R02G001	DVD COVER PC TEIJIN MN-3600HC DV10
2	75.81R11G001	ASSY DVD UP COVER MODULE DV10 "GREEN"
3	52.81R16G001	DVD UP COVER RUBBER SILICONE DV10 "GREEN"
4	51.90112.001	DOOR LOCK DL-400D BLACK PINGOOD EP652
5	51.00095G001	DAMPING GEAR PG-1 "GREEN";"PINGOOD"
6	61.81R20G001	DVD COVER SPRING SUS 304 DV10 "GREEN"
7	52.81R05G001	DVD KEYPAD BUTTOM SILICONE RUBBER DV10 "GREEN"
8	51.81R20G001	DVD METAL DOME DV10 "GREEN"
9	80.81R05G001	PCBA DVD KEYPAD BD FOR DV10 "GREEN"
10	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
11	85.WA123.080	SCREW PAN TAP M3*8 Ni
12	51.81R40G001	DVD BD MYLAR FRPP 0.125t DV10 "GREEN"

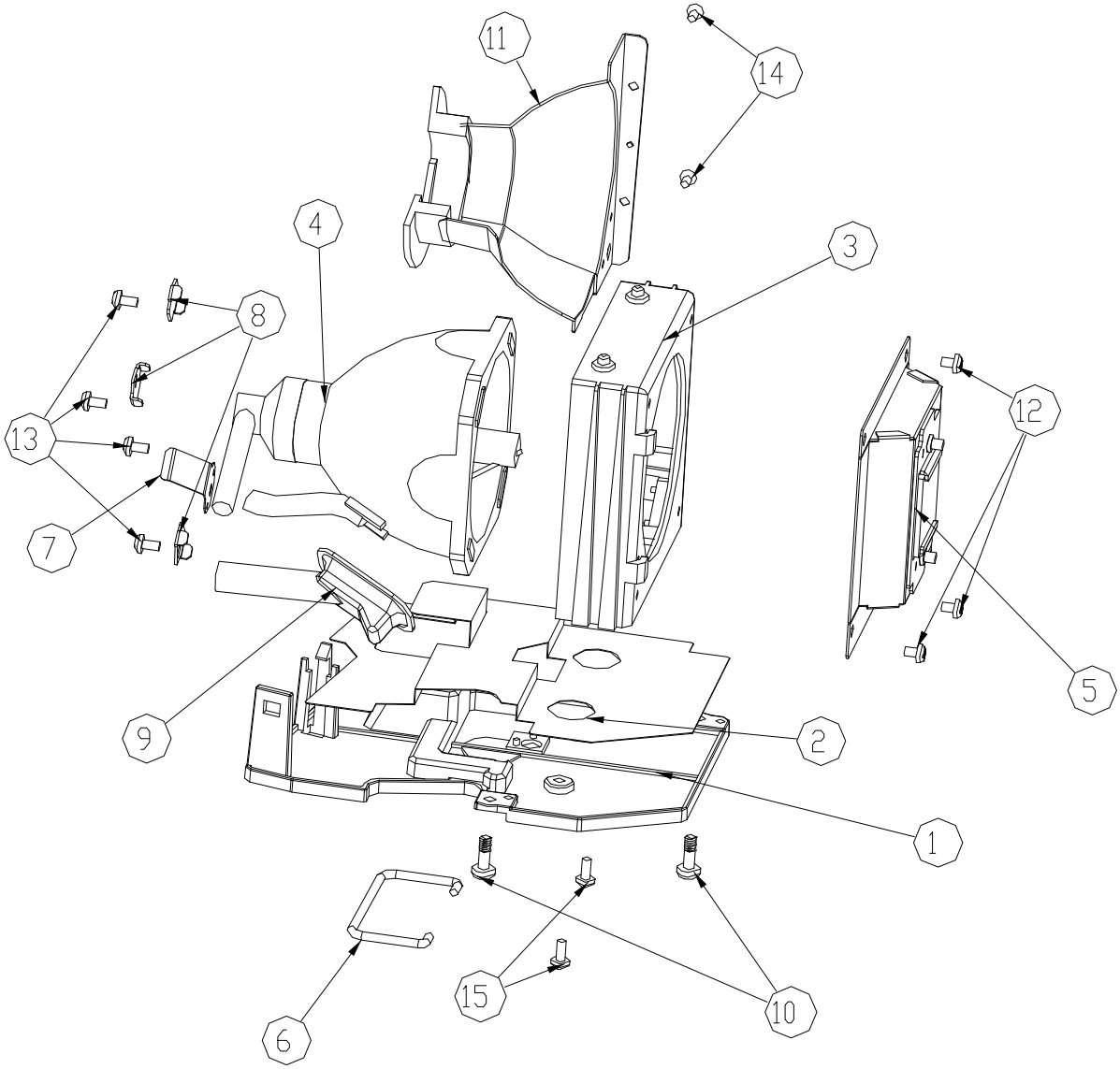
X. DVD Loader Module



Exploded Parts List

Item	P/N	Description
1	75.81R03.001	TOP LOADER DVD MECHANISM HTP002A0 FOR DV10
2	75.81R20G001	BUY ASSY DVD BD SHIELDING MODULE DV10 "GREEN"
3	75.81R19G001	BUY ASSY DVD SUPPORT MODULE DV10 "GREEN"
4	80.81R03G002	PCBA DVD BD FOR DV10 "GREEN"
5	80.81R08G001	PCBA SWITCH BD FOR DV10 "GREEN"
6	42.81R04G002	CABLE FFC 24P 0.5mm L=135mm DVD/B TO DVD MODULE DV10 "GREEN"
7	42.81R14G002	CABLE FFC 40P 0.5mm L=175mm M/B TO DVD/B DV10 "GREEN"
8	52.81R10G001	DVD LOADER DAMPER SILICONE RUBBER DV10 "GREEN"
9	42.81R03G002	W.A. 5P #28 100mm UL1007 K/B TO DVD BD DV10 "GREEN"
10	85.3A122.040	SCREW PAN MECH W/SF M3*4 Ni
11	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
12	41.81R15G001	EMI GASKET TAPE 15mm X 30mm
13	52.81R19G001	THERMAL PAD 24.3x24.3x3.5 GR-b
14	51.81R41G001	DVD SWITCH MYLAR DV10

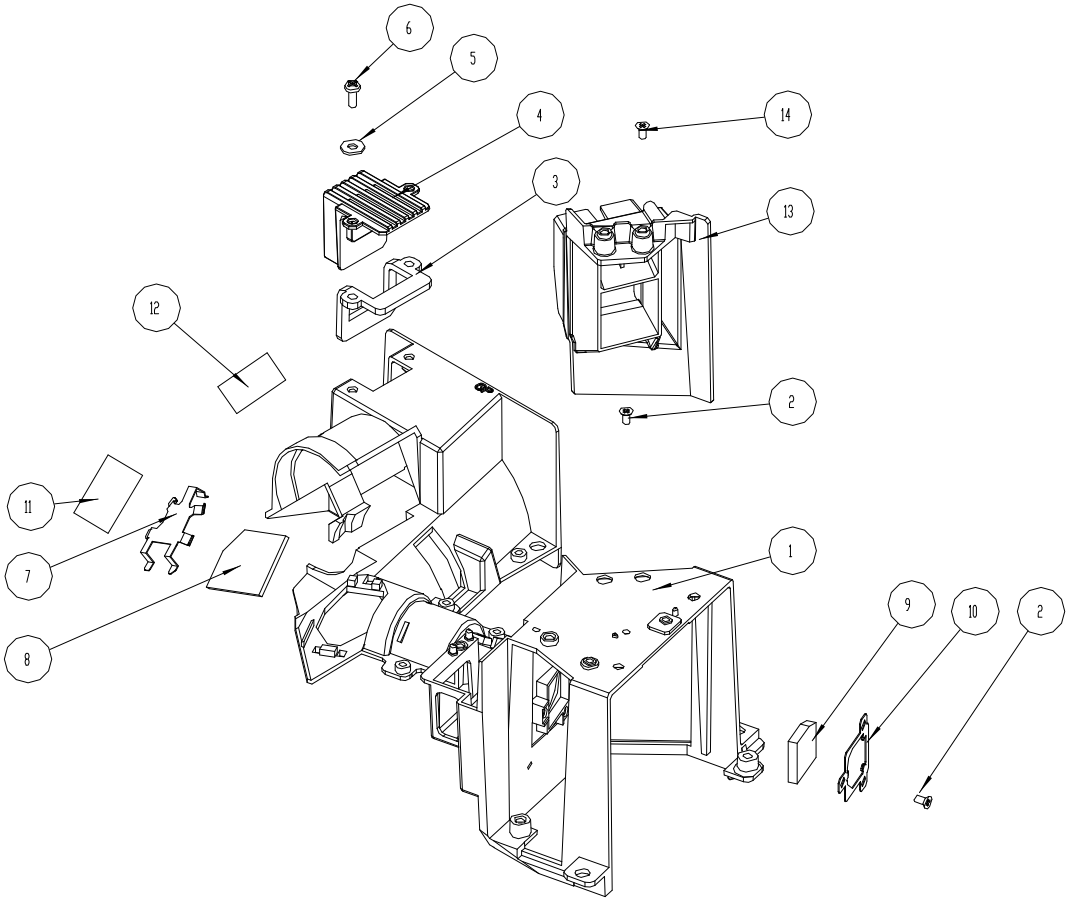
XI. Lamp Module



Exploded Parts List

Item	P/N	Description
1	51.80J02G001	LAMP BOTTOM 739 PPS
2	61.80W16G001	LAMP LNSULATOR AL 2300MPX
3	61.81H03G001	LAMP HOLDER AL PHENIX
4	23.80N15.001	PHOENIX 200W DC LAMP X66
5	70.81H07G001	ASSY COVER GLASS HOLDER
6	61.87125G001	LAMP HANDLER SUS304
7	61.88505.001	LAMP BRACKET 1 SUS301
8	61.88506G001	LAMP BRACKET 2 SUS301
9	52.81510G003	SILICON RUBBER for LAMP EP739
10	61.00018G002	LOCK SCREW PAN MECH M3*8.5-3.5
11	75.80N03.001	LIGHT CUT COVER MODULE
12	85.1A126.030	SCREW PAN MECH M2.6*3 NI
13	85.1A626G040	SCREW PAN MECH M2.6*4 BLACK
14	85.4A122.040	SCREW FLAT MECH M2*4
15	85.1A626G050	SCREW PAN MECH M2.6*5 BLACK

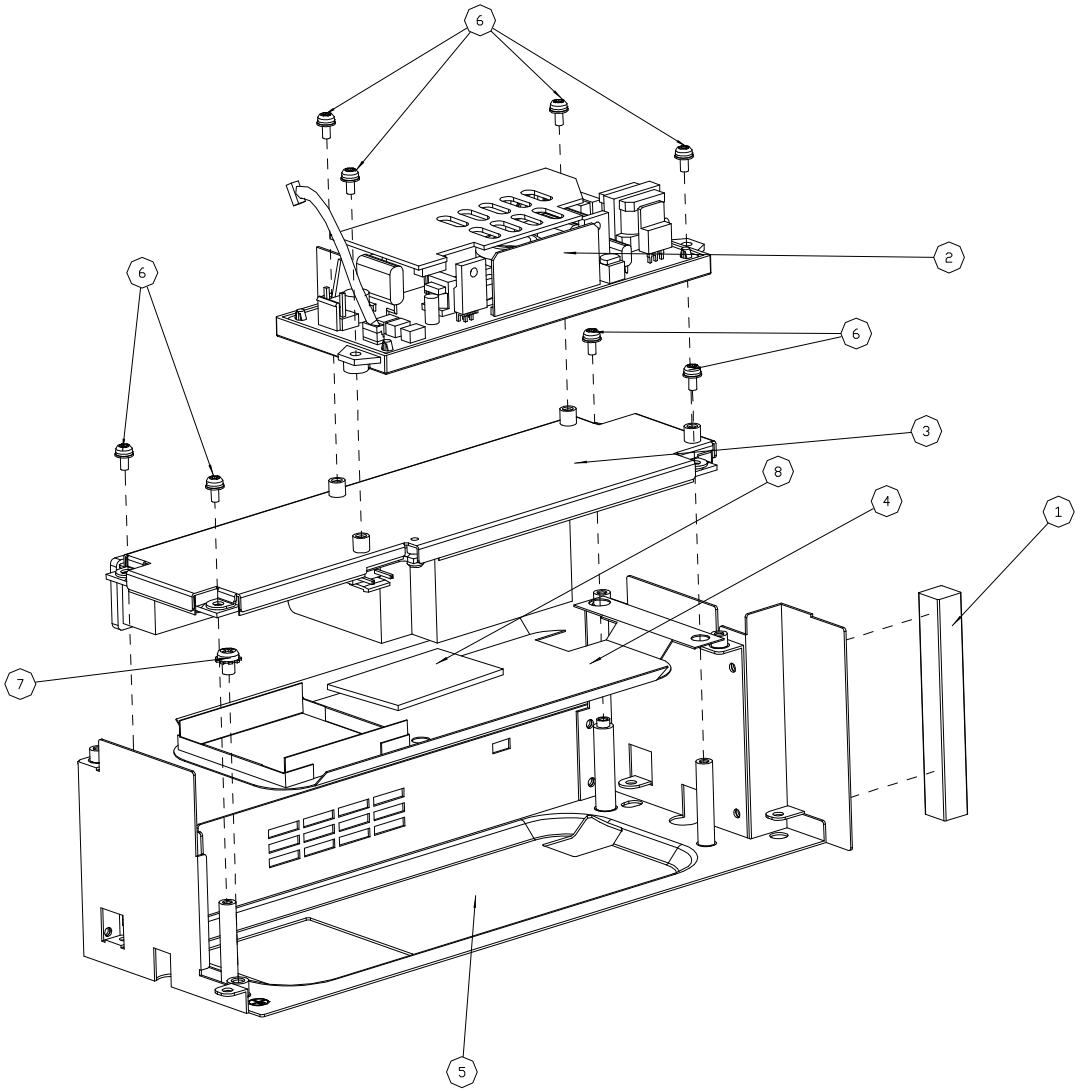
XII. Engine Base



Exploded Parts List

Item	P/N	Description
1	61.80J01G001	ENGINE BASE 739 Mg ALLOY "GREEN"
2	85.1A626.040	SCREW PAN MECH M2.6*4 BLACK NYLON
3	52.80J02G001	OFF LIGHT ISOLATOR 739 SILICONE RUBBER "GREEN"
4	61.80J39.001	OFF LIGHT PLATE AL VULCAN-1
5	87.FL030G008	WASHER FLAT 7*3.1*0.8t PC PINGOOD WS-1M "GREEN"
6	85.1A326.060	SCREW PAN HEAD MECH M2.6*6 BLACK
7	61.80J07G001	SPRING MIRROR2 739 SUS301 0.25t "GREEN"
8	23.80J02G011	REFLECTION MIRROR2 OF DP739 SERIAL "GREEN"
9	23.80S10G001	UV/IR FILTER OF DP739 SERIES "GREEN"
10	61.80J02G001	UVIR HOLDER 739 SUS301 0.3t "GREEN"
11	51.80W34G001	ENGINE BASE MIRROR2 TAPE 3M-J350 2300MP "GREEN"
12	51.81542G001	TAPE 3M J350 17*15mm "GREEN"
13	61.81H05G001	BLOWER FAN DUCT AL TDP-MT200 "GREEN"
14	85.5A126G040	SCREW BINDING MECH M2.6*4 Ni "GREEN"

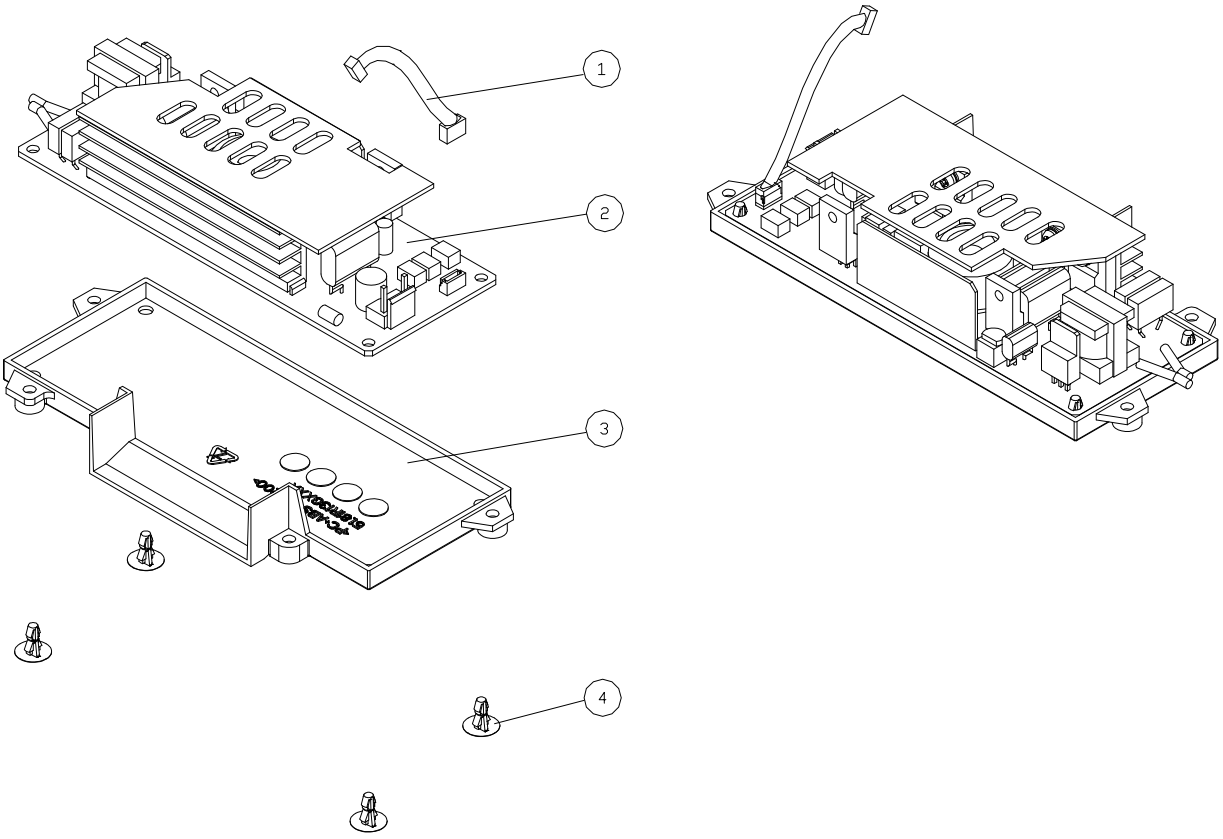
XIII. Power Module



Exploded Parts List

Item	P/N	Description
1	41.81R04G001	EMI GASKET CONDUCTIVE SPONGE 10*10*76 DV10 "GREEN"
2	70.81R20G001	ASSY LAMP DRIVER MODULE DV10 "GREEN"
3	70.81R24G001	ASSY LVPS MODULE DV10 "GREEN"
4	51.81R21G001	LVPS DOWN MYLAR GS DV10 "GREEN"
5	61.81R03G001	BOTTOM SHIELDING REAL AL 5052 t=0.8
6	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
7	85.1C224.050	SCREW PAN MECH M4*5 COLOR W/TOOTH WASHER
8	52.81R20G001	LVPS THERMAL PAD; FUJIPOLY GR-B 70*39*1.0mm

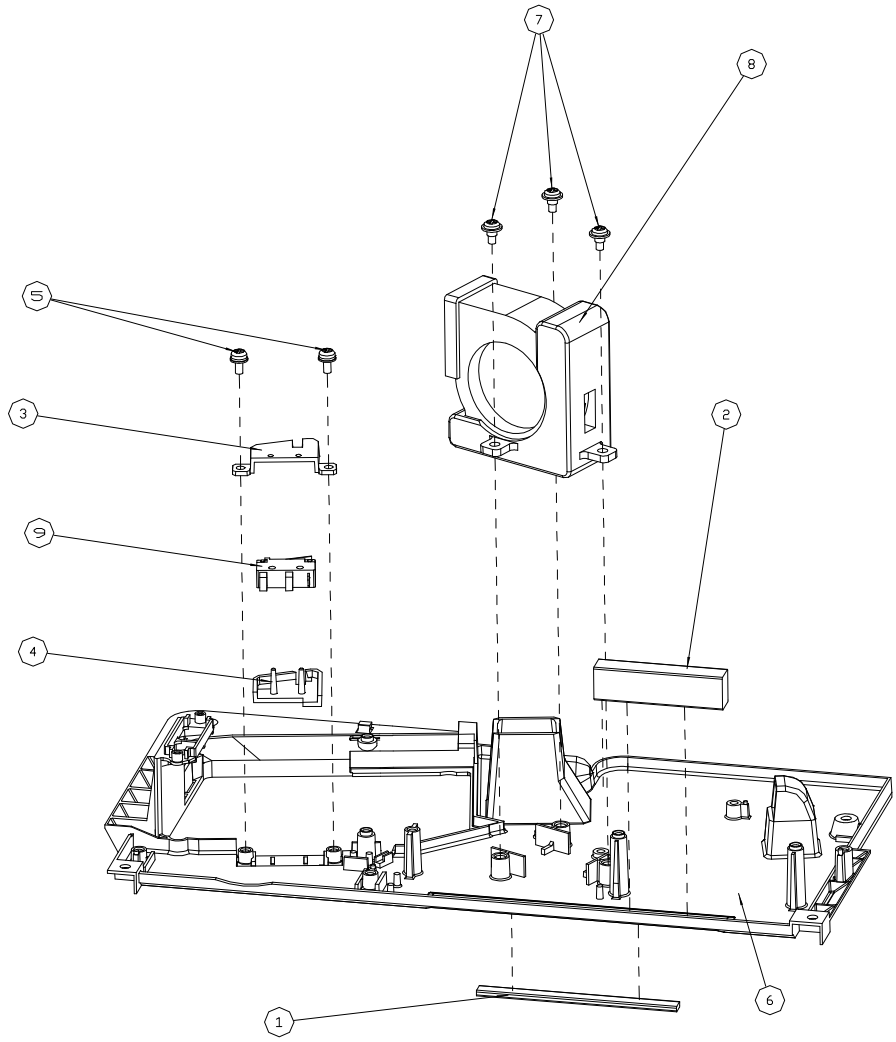
XIV. Lampdriver Module



Exploded Parts List

Item	P/N	Description
1	42.81R11G001	W.A. 5P #28 170mm LAMP DRIVER TO MAIN BD DV10
2	75.80N06.001	ASSY HITACHI LAMP DRIVER EP739X
3	51.81R13G001	LAMP DRIVER HOLDER PC+ABS, GE C6200 DV10 "GREEN"
4	51.00138.001	SPACER SUPPORT SCK-3A "PINGOOD" EP739

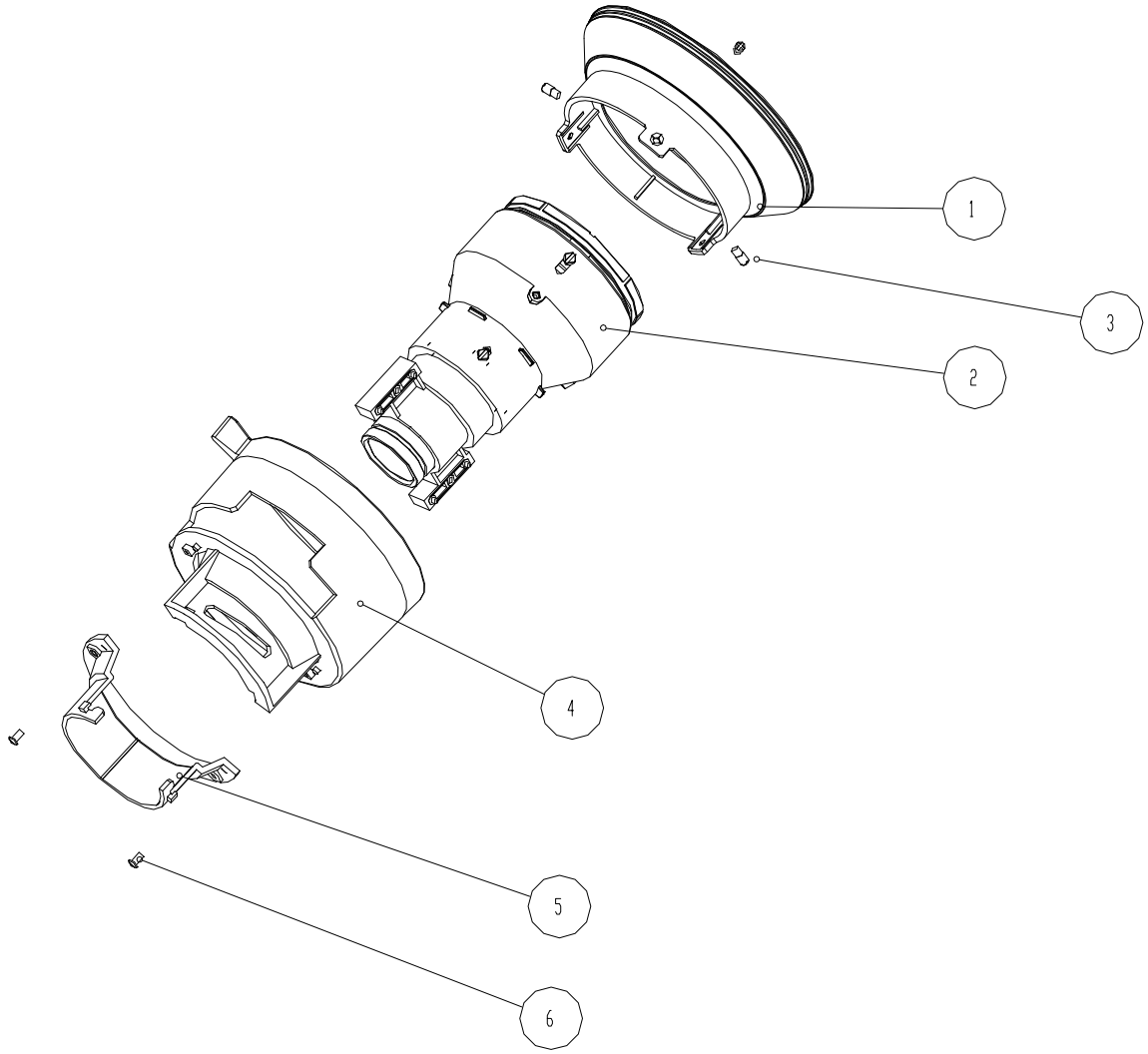
XV. Buttom Base Module



Exploded Parts List

Item	P/N	Description
1	41.81R03G001	EMI GASKET CONDUCTIVE SPONGE 2(t)x5(w)x70(l) DV10
2	41.81R06G001	EMI GASKET CONDUCTIVE SPONGE 12(t)x8(w)x45(l) DV10
3	51.80J03G001	INTERRUPT SW HOLDER 739 PPS "GREEN"
4	51.80J04G001	INTERRUPT SW BOTTOM 739 PPS "GREEN"
5	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni
6	61.81R01G001	BOTTOM BASE Mg ALLOW AZ91D DV10 "GREEN"
7	61.87340.001	STAND OFF M3*4L D8.0 2100MP
8	70.81R22G001	ASSY BLOWER FAN MODULE DV10 "GREEN"
9	75.81R14G001	ASSY INRERRUPTER SWITCH DV10 "GREEN"

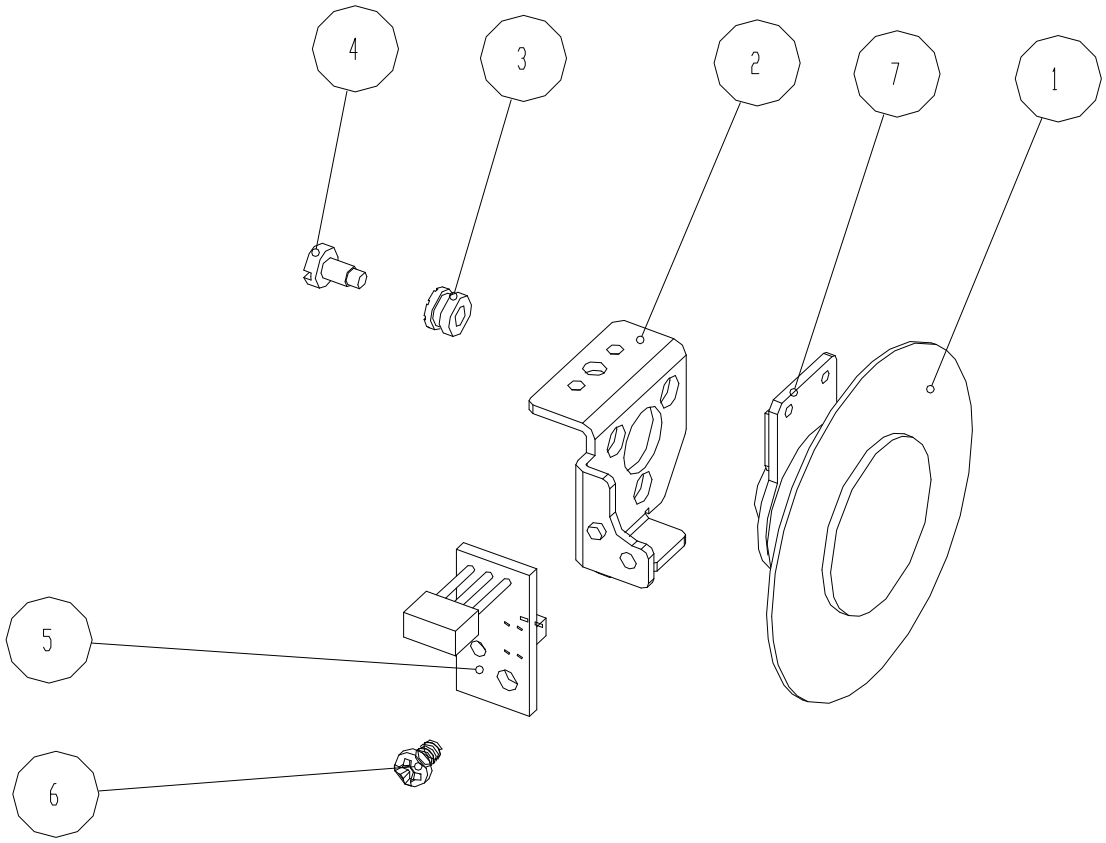
XVI. Optical Lens Module



Exploded Parts List

Item	P/N	Description
1	51.81R10G002	YM08 FOCUS RING PC+ABS, GE C6200 DV10 "GREEN"
2	23.81R01.001	YM08 WIDE ANGLE SVGA PROJECTION FOR DV10,
3	85.4A322.040	SCREW FLAT MECH M2*4
4	51.81R11G002	YM08 ZOOM RING PC+ABS, GE C6200 DV10 "GREEN"
5	51.81R17G001	ZOOM RING LOCK PC+ABS C6200 DV-10 "GREEN"
6	85.WA122.040	SCREW PAN TAP M2*4 Ni

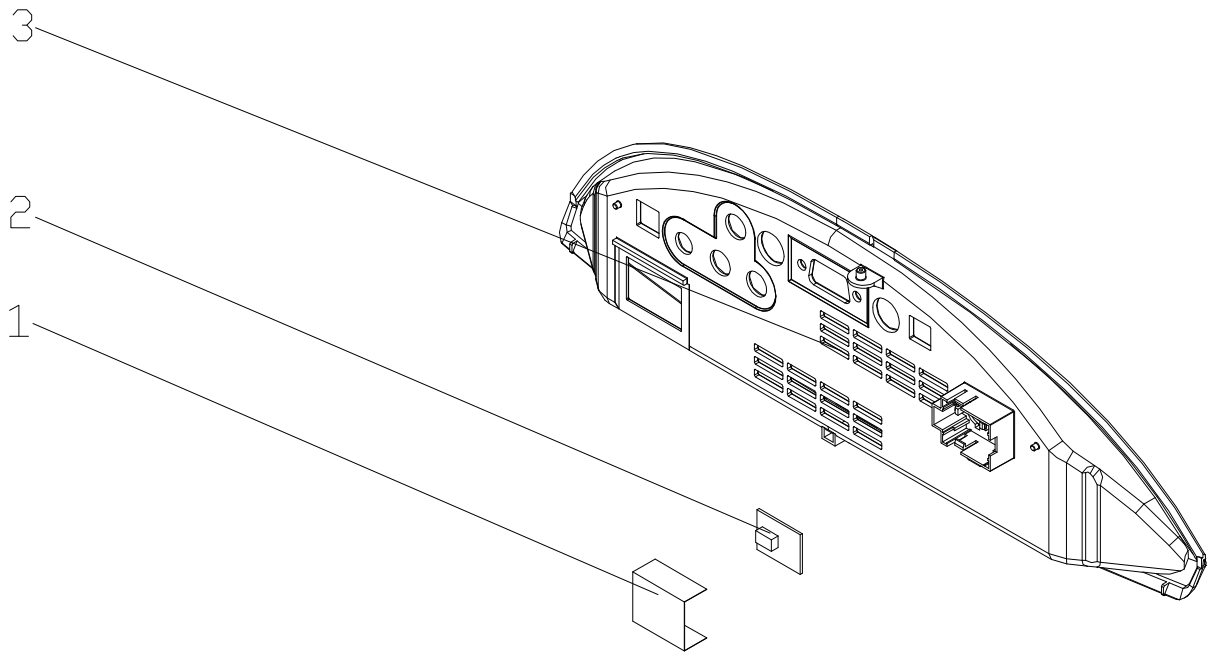
XVII. Color Wheel Module



Exploded Parts List

Item	P/N	Description
1	23.81G19G001	SLEEVE BEARING COLOR WHEEL %%16644mm G57/R70/B53/G57/R70/B53 "GREEN"
2	61.80J08G001	CW HOLDER 739 SECC 1.2t "GREEN"
3	52.83615G001	COLOR WHEEL DISC RUBBER, EzPro755 "GREEN"
4	61.83628G001	COLOR WHEEL SHOULDER SCREW,EzPro755 "GREEN"
5	80.80N04.001	PCBA PHOTO SENSOR BD EP739
6	85.1A626.040	SCREW PAN MECH M2.6*4 BLACK NYLON
7	51.80J38G001	MYLAR CW SUPPORT 739 FR700 0.18t "GREEN"

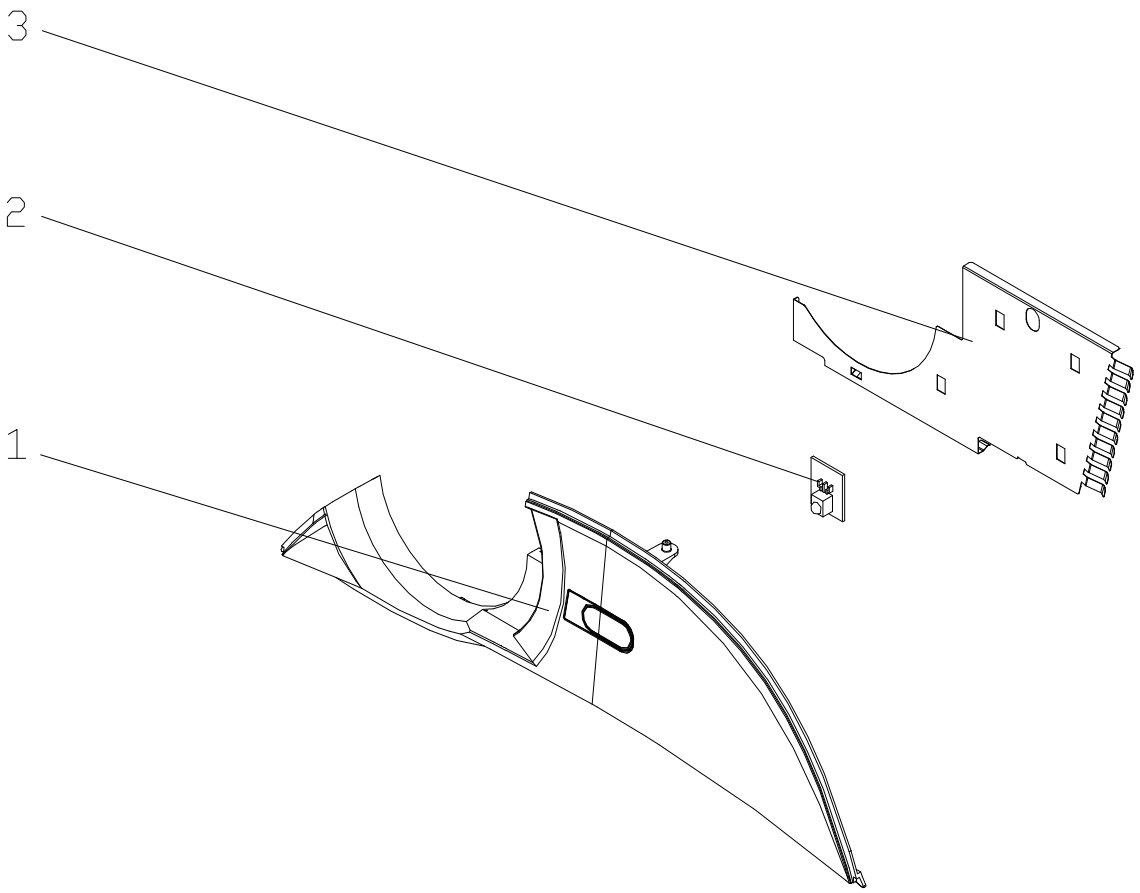
XVIII. Rear Cover Module



Exploded Parts List

Item	P/N	Description
1	51.81R33G001	REAR COVER IR MYLAR t=0.125mm DV-10 "GREEN"
2	80.81R10G001	PCBA REAR IR SENSOR BD DV10 "GREEN"
3	75.81R10G002	ASSY REAR COVER MODULE DV10 "GREEN"

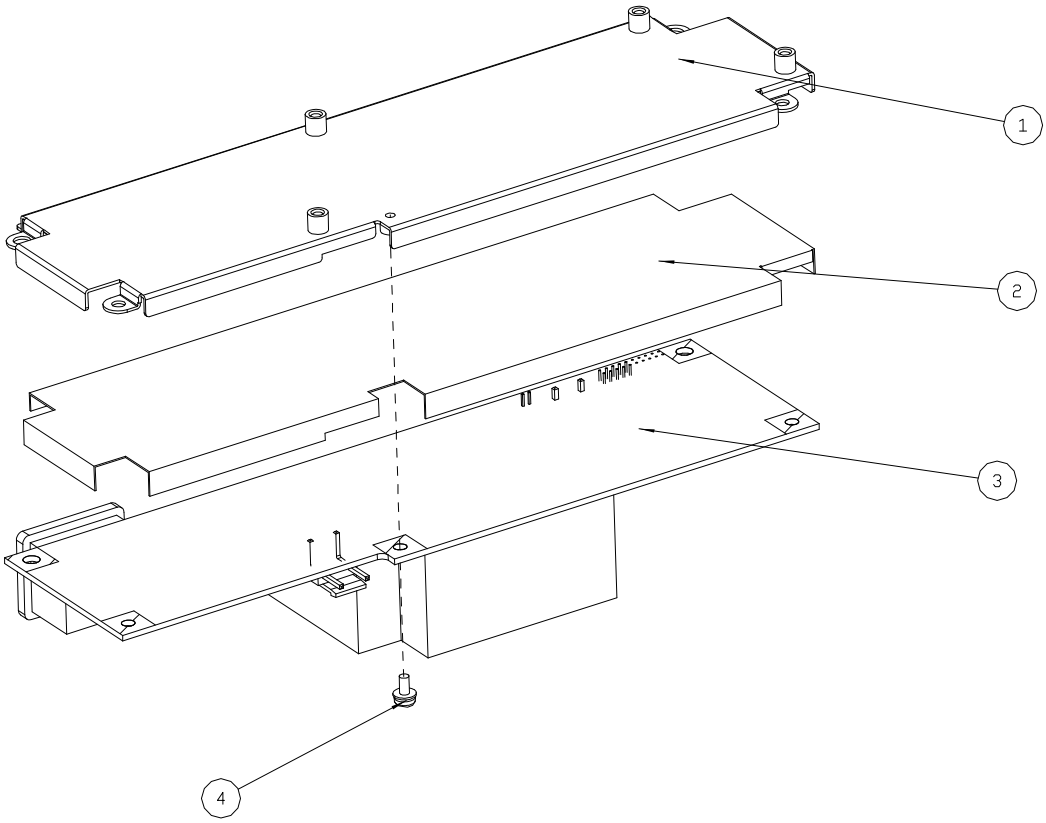
XVIIII. Front Cover Module



Exploded Parts List

Item	P/N	Description
1	75.81R09G001	ASSY FRONT COVER MODULE DV10 "GREEN"
2	80.81R09.001	PCBA IR SENSOR BD DV10 "GREEN"
3	61.81R10G001	FRONT SHIELDING SUS301 t=0.1 DV10 "GREEN"

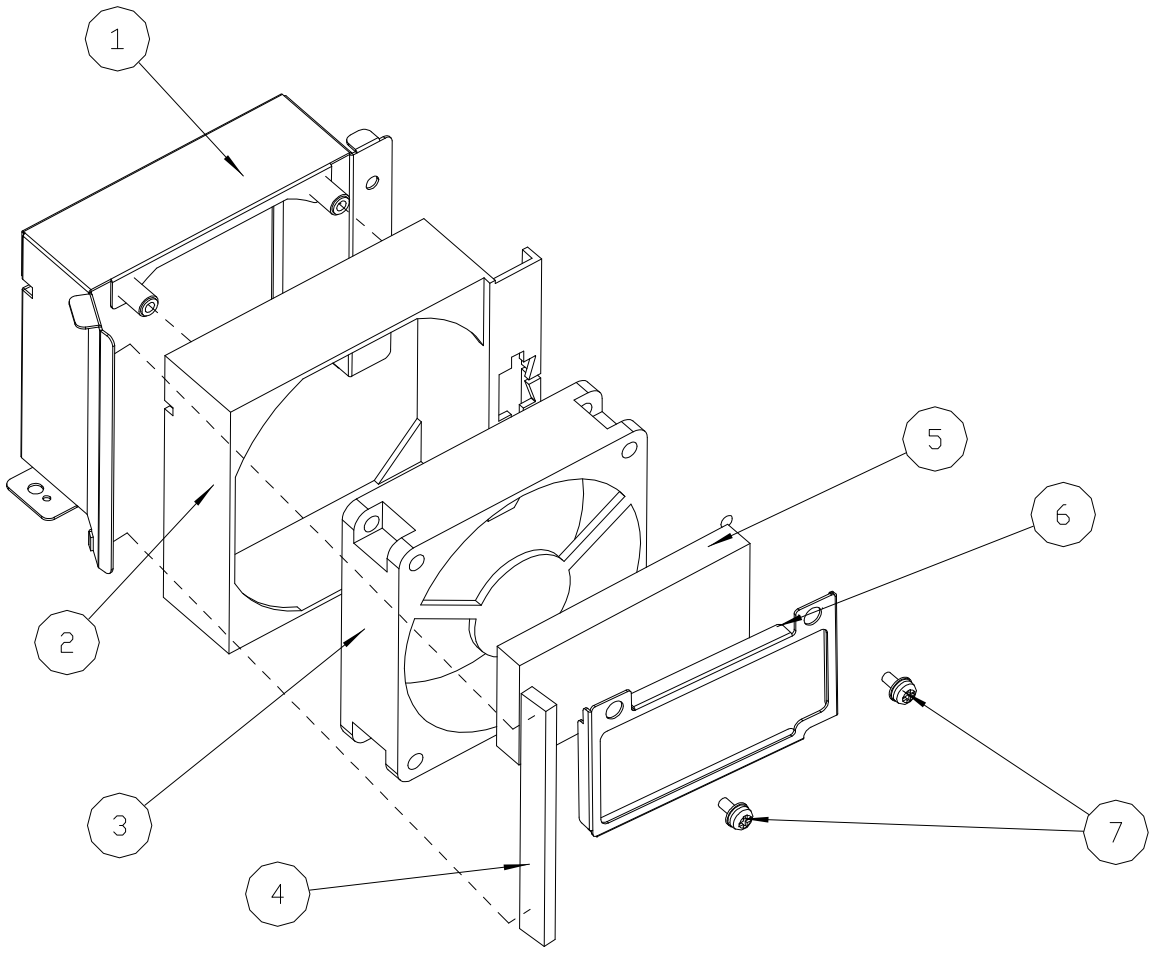
XX. LVPS Module



Exploded Parts List

Item	P/N	Description
1	61.81R05G001	LVPS SHIELDING AL 5052 t=0.8
2	51.81R14G001	LVPS MYLAR GS DV10 "GREEN"
3	70.81R19G001	ASSY SUB LVPS MODULE DV10 "GREEN"
4	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni

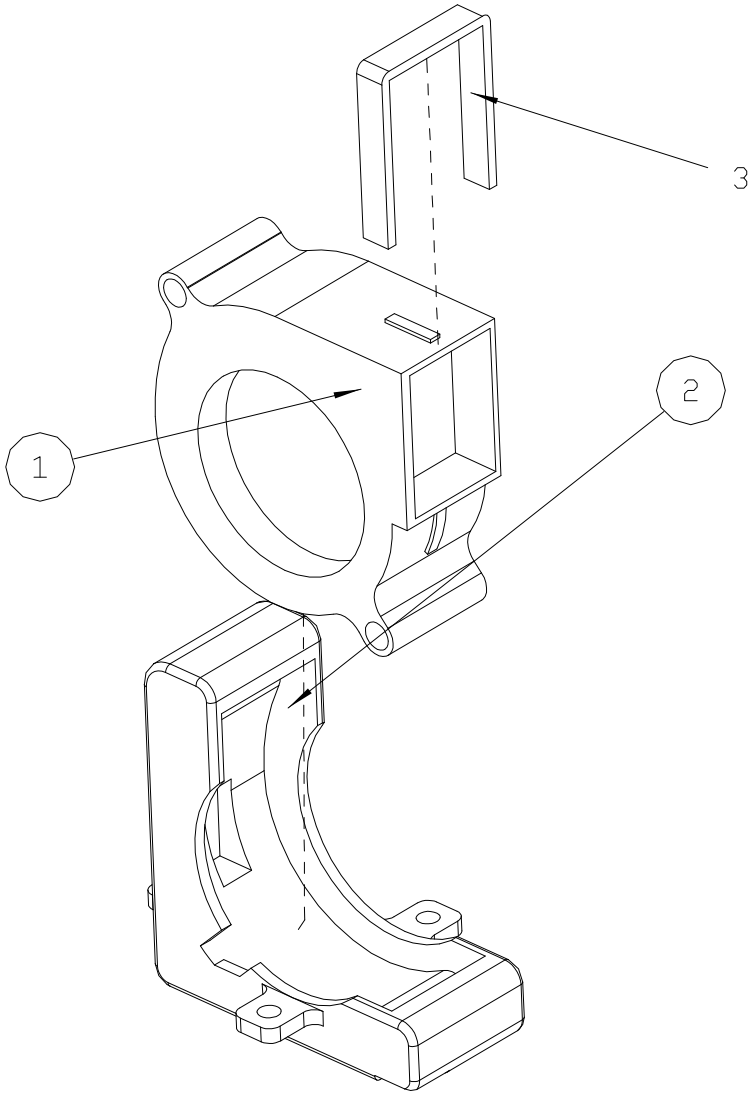
XXI. Axial Fan Module



Exploded Parts List

Item	P/N	Description
1	61.80N07G011	FAN FRAM AL 5052 t=0.6mm DV10 "GREEN"
2	52.80W01.001	RUBBER FOR FAN7020 2300MPX
3	49.80N01G001	SUNON 70*20 R-TYPE AXIAL FAN ,GM1207PKVX-A,
4	52.80N06.001	SPONGE FOR BLOWER DUCT BF1000 t=3.3mm EP739
5	61.80F02G001	PHOYOCATAL YSIS HONEYCOMBED FOIL
6	61.81R31G001	HONEYCOMBED FOIL FIX PLATE
7	85.1F123.060	SCREW PAN MECH W/SF M3*6 Ni

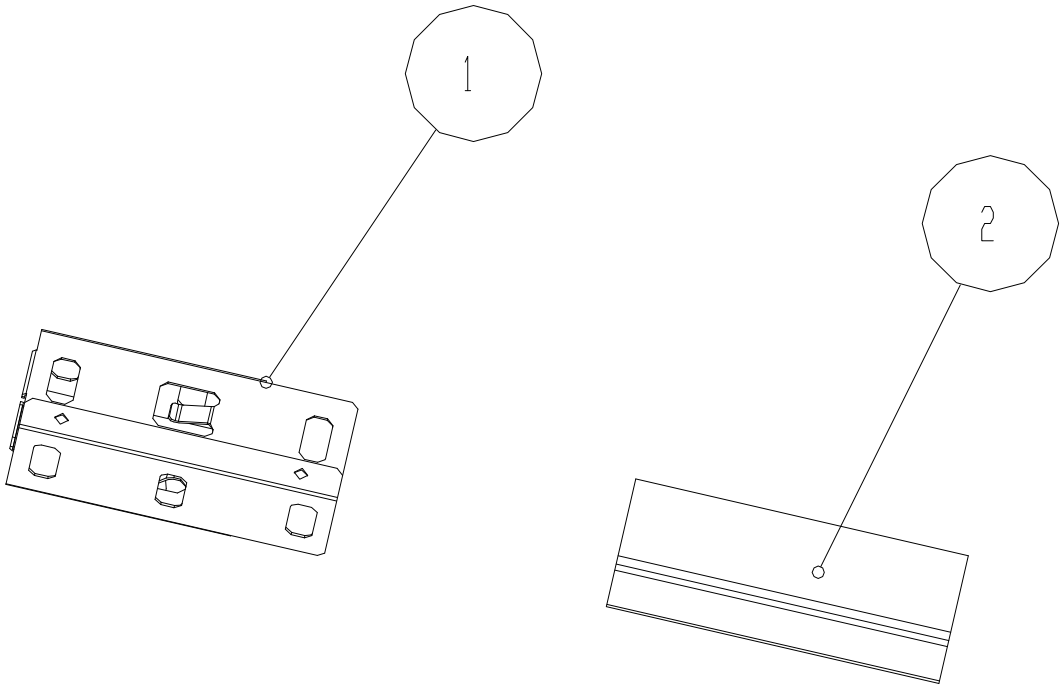
XXII. Blower Fan Module



Exploded Parts List

Item	P/N	Description
1	49.80N02G001	SUNON 50*20 R-TYPE BLOWER ,GB1205PKV4-8AR,
2	52.87306G001	RUBBER BLOWER FAN FRAME 2100 "GREEN"
3	52.80S14G001	BLOWER PAD F12 76*5*t1.6 TDP-T90 "GREEN"

XXIII. Rod Module



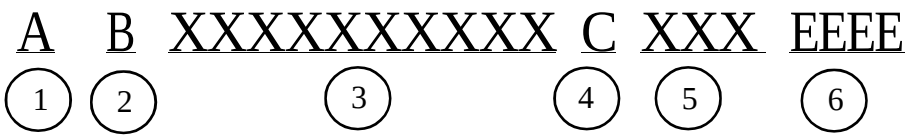
Exploded Parts List

Item	P/N	Description
1	61.80J04G001	ROD HOLDER 739 SUS301 0.2t "GREEN"
2	23.81H17G001	INTEGRATING ROD FOR MT200 4806P SERIES "GREEN"

Appendix B

I. PCBA Code Definition

PCBA Code for Projector



1 : ID — C: M/B, B: DMD/ B

2 : Vendor Code

3 : P/N

4 : Revision

5 : Date Code

6 : S/N

Appendix C

Serial Number System Definition

Serial Number Format for Projector

A	BBB	Y	WW	C	D	BEMO	EEEE
①	②	③	④	⑤	⑥	⑦	⑧

① : A = Optoma, B~Z = OEM

② : Product code (ex: 81R = DV-10)

③ : Y = Last number of the year (ex: 200<u>5</u> - 5)

④ : Week of year

⑤ : Panel vendor code

⑥ : Electrical classification (1=110V, 2=220V, 0=universal)

⑦ : B = BIOS version, E = PCB board version,
M = Mechanical version, O = Optical version

⑧ : Serial code (from 0001~)

EX : A81R529T0AAAA1001

This label "A81R529T0AAAA1001" represents the whole serial number for DV-10, including Ver. 1st of BIOS and Ver. 1 of PCB Board. Both mechanical and optical version are 1st. In addition, panel vendor is T0. It's produced on 29th-week of 2005 for universal area and its serial code is 1001.

Reader's Response

Dear Readers:

Thank you for your backing our service manual up. In order to refine our content of the service manual and satisfy your requirement. We expect you can offer us some precious opinions for reference.

Assessment:

A. What do you think about the content after reading DV-10 Service Manual?

Unit	*Excellent*	*Good*	*Fair*	*Bad*
1. Introduction				
2. Disassembly Procedure				
3. Troubleshooting				
4. Function Test & Alignment Procedure				
5. Firmware Upgrade Procedure				
6. DDC key-in Procedure				
7. Appendix				

B. Are you satisfied with the DV-10 service manual?

Item	*Excellent*	*Good*	*Fair*	*Bad*
1. Service Manual Content				
2. Service Manual Layout				
3. The form and listing				

C. Do you have any other opinion or suggestion about this service manual?

Reader's basic data:

Name:		Title:	
Company:			
Add:			
Tel:		Fax:	
E-mail:			

After your finishing this form, please send it back to Coretronic Customer Service Dept. by fax: 886-3-563-5333.